DOCUMENT RESUME

ED 300 643 CE 051 317

AUTHOR	Hallett, Jeffrey J.
TITLE	Worklife Visions. Redefining Work for the Information Economy.
INSTITUTION	American Society for Personnel Administration, Alexandria, VA.
REPORT NO	ISBN-939900-31-9
PUB DATE	Sep 87
NOTE	200p.
PUB TYPE	Books (010)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Administration; *Economic Change; Educational Needs; *Employer Employee Relationship; Entrepreneurship; Foreign Countries; *Futures (of Society); Leadership; *Organizational Change; Postsecondary Education; Productivity; Social Change; *Technological Advancement; *Work Environment
IDENTIFIERS	*Information Age; Japan

ABSTRACT

The changing economy is affecting everyone's life, especially from the standpoint of prospects for earning a living and pursuing a meaningful career. A clear understanding of the changing nature and dimensions of work is a necessary requisite to planning careers, managing employees, and developing effective employment policies. Preparing for the future also requires an understanding of the shift from the industrial to the information economy. The workplace is especially turbulent at the present time, with nothing seeming certain except for change and even more uncertainty. Technological advancement provides, for the first time, a tool to expand the capabilities of human imaginations rather than human muscles. The Japanese have brought a different perspective and new approaches to management and organization that are likely to have a major impact on the future. Productivity, quality, excellence, innovation, and entrepreneurship are becoming increasingly important. The traditional social contract defining the rights and responsibilities of employers and employees are being rewritten, and new management models (focusing on leading and motivating versus controlling) are emerging. Education, particularly lifelong learning, will play a key role in building the new economy. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED300643

WORKLIFE VISIONS

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE051317

WORKLIFE VISIONS

Redefining Work for the Information Economy

Jeffrey J. Hallett

Published by

American Society for Personnel Administration
Alexandria, Virginia
September, 1987

Project Director and Editor:
CATHERINE DOWNES BOWER

Computer Support:
RICHARD E. HALLETT

Cover Design:
TOM YURCICH

©1987. American Society for Personnel Administration
606 N. Washington Street, Alexandria, Virginia 22314

First printing September 1987

Second printing May 1988

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photo copying, recording or otherwise, without prior written permission of the copyright holder.

The views in this book are solely the views of the author. No opinions, statements of fact, or conclusions contained in this book can properly be attributed to the Society, its staff, or its members.

ISBN 939900-31-9

Printed in the United States of America. Composed on personal computer and produced directly by laser printer.

WORKLIFE VISIONS

Redefining Work for the Information Economy

Introduction 1

A changing economy is having an impact on everyone's life — particularly on our prospects for earning a living and pursuing meaningful careers.

Chapter 1
Work: A Changing Definition 7

To plan our careers, manage our employees or develop effective employment policies, we must be clear about the changing character and dimensions of work.

Chapter 2
The Information Age: A New Working Environment 21

Preparation for the future requires an understanding of the shift from the industrial to the information economy.

Chapter 3
The Economy and the Work Force 35

There is extreme turbulence in the workplace as nothing seems certain except change and more uncertainty.

Chapter 4
Technology: New Tools, New Potential 63

For the first time, we have developed a tool to expand the capabilities of imagination rather than muscle.

Chapter 5
Japan: A Major Influence on Our Future 85

The Japanese bring a different perspective and new approaches to management and organization.

Chapter 6
**Productivity, Quality and Excellence:
A State of Mind** 99

These qualities are defined by a "state of mind" in the workplace that causes each employee to constantly strive for improvement.

Chapter 7
**Innovation and Entrepreneurship:
A New Approach to Worklife** 113

Traditional forms of organization, management and work no longer succeed in the new environment and the entire managerial tradition and culture is being challenged.

Chapter 8
**Employer/Employee Relationships:
Rewriting the Social Contract** 129

As organizations and individuals attempt to adjust to the new realities of worklife, the old social contract defining rights and responsibilities between employer and employee is coming apart.

Chapter 9
**Management and Leadership:
New Models are Needed** 161

The challenge to management has changed from managing and controlling to leading and motivating.

Chapter 10
Education and Training: The Competitive Edge 185

Education is the primary source of the raw materials from which our economy will be built. Lifelong learning is now a necessity for everyone.

Chapter 11
**Creating Worklife Visions:
The Challenge and the Choices** 203

Through our collective actions we will create a future worklife for ourselves and our children.

Acknowledgments

This book represents the efforts of many people. Without the generous contributions of their time, thoughts, patience and hard work, there would be no book. My part was the easiest. I had the opportunity to do the research, explore some ideas and describe my thoughts about the dramatic changes we all are experiencing in our work and careers. It was my friends, family and associates, however, who performed the thankless task of turning several hundred pages of material into a book.

ASPA's Cate Bower was both the instigator of the book and a most insightful and patient editor. Admittedly, I made her job a difficult one — I'll bet I missed every deadline. Her mix of enthusiasm and constructive criticism held the whole project together.

During the final crunch, several people took time from their busy schedules to help shape the manuscript into a readable product. Input from Chris Hapner, Jack Tacke, Debbie Cameron, and Clea Mathews brought needed perspective to the manuscript under impossible time constraints.

I also was fortunate to have several people agree to review an early draft of what I had written. They told me which sections worked, and which ones should enter permanent retirement. For their time and helpful comments, special thanks go to Dr. Walter Albers, Roger Craver, Steve Rexford, Howard K. Smith, Bob Friedman, Jack Burke, Bill Munsell, and Joe Plummer.

Thanks also to the marvels of desktop publishing: This book was produced in my office using networked Macintosh computers and a LaserWriter printer. The draft material was worked, reworked, and put into final form through the seemingly tireless efforts of Dick Hallett, my brother and business associate.

My family and friends endured more than a year of distractions, frustrations and long hours at the office. My children Chris, Andrew, Jono, and K.C., for whom work in the 21st century is a very real concern, were a constant source of inspiration. And I especially want to thank my parents, for their constant love and support.

Finally, to everyone who helped and supported me throughout the production of this book, let me say this: I sincerely hope the final result is worthy of your many contributions and hard work. Thanks again.

JEFF HALLETT
August , 1987
Alexandria, VA

Introduction

"People are the premier resource and primary responsibility of any country."

— ADAM SMITH

This is a book about work and career, and the efforts to understand, organize and manage both. It represents more than a decade of studying the issues of change, productivity, personal growth and human resource management. The intention is to translate obvious and relentless shifts in the economy and society, as a whole, into terms and ideas that are as relevant for the senior vice-president for human resource development at a *Fortune* 500 manufacturer, as for the 27-year-old entrepreneur or the 17-year-old student.

Fulfilling this intention turned out to be a difficult challenge. The changes underway in our economy and society today are of historic magnitude. As described in the chapters that follow, the current and future realities with which we must deal describe circumstances so new and so challenging, that we do not even have a well-established vocabulary to describe them.

There are many messages in this book. Some of them are contradictions. Many are not totally clear. The changes are so deep and far reaching that there are no simple descriptions or answers as to the real nature of work and employment in the 21st century.

Considering the future of work requires an examination of the broader context within which work occurs. This means taking a hard look at the health and direction of the economy today and over the next several years, as well as at the likely restructuring of key industries between now and the year 2007. Given the magnitude of the changes underway, this broader vision must be developed.

While the 21st century may seem far off and a concern only for science fiction writers, it is not. In 20 short years it will be 2007. The entire work force of 2007 is alive today. The leaders of 2007 are now in their 30s and already at work. Today's college freshmen will be at the center of the work force making the decisions that shape the nation and the economy in the initial decades of the 21st century.

This book is written for the work force of 2007, and for those whose actions and decisions between now and then will determine how well they are prepared for that time. It is written with the firm belief that this future will be created by the decisions and choices we make today, and throughout the next decade.

Much has been written about the future during recent years. Important insights into the emergence of a new information, knowledge, service or computer age have been provided by "Future Shock," "The Third Wave," "The Next Economy," "Megatrends," and similar books. As the realization grows that the future is not as predictable as it once was, more books about the subject will be written.

We do seem to be reaching a consensus that a major change in our economy is taking place. That consensus, however, is an intellectual one. We are comfortable with concepts, ideas and vocabulary associated with the new age, and discuss it freely at cocktail parties, business retreats, and in classrooms. For the most part, however, we have yet to translate what we know about the new economy into a belief strong enough to guide our behavior and decisions at work.

We simply cannot consider future prospects in terms of work, employment and jobs by thinking of those things alone. While there may be some comfort in attempting to extrapolate numbers of jobs by industry and career field, the results are, in fact, just that — numbers. More important is the nature of the work being performed, the skills we will need to be successful, the rewards we can expect, and the organizational and managerial behaviors that must be developed.

Considering the magnitude of the changes underway and their impact on our working lives, ***it is clear that we must adopt new definitions for work, careers, employment and education.*** Attempting to anticipate our own opportunities and challenges, as well as those of our children, requires that we confront the changes in our economy and realize the ideas and concepts that once clearly described employment are no longer clear. At this very basic level we find some startling new realities.

For instance, very few people reading this book have any real "job security" beyond the next three to four years, at most. While this may be difficult to admit, evidence of instability in any job is widespread. ***There is extreme turbulence in our economy.*** We are simultaneously creating and losing two million jobs a year, with massive layoffs occurring in our largest, most respected companies. Vast numbers of Americans already have been affected, directly or indirectly, by the restructuring of our industries, associations, schools and governments. Unfortunately, the normal reaction is always to think "it can't happen to me." It most assuredly can.

We also know that regardless of our industry or profession, there is relentless change, mass confusion and a constant shifting of roles and power. Rules are changing, both in regulation and in practice. Strange new technology surrounds us. And personal incomes have not met our expectations — though that doesn't seem to be the case for others!

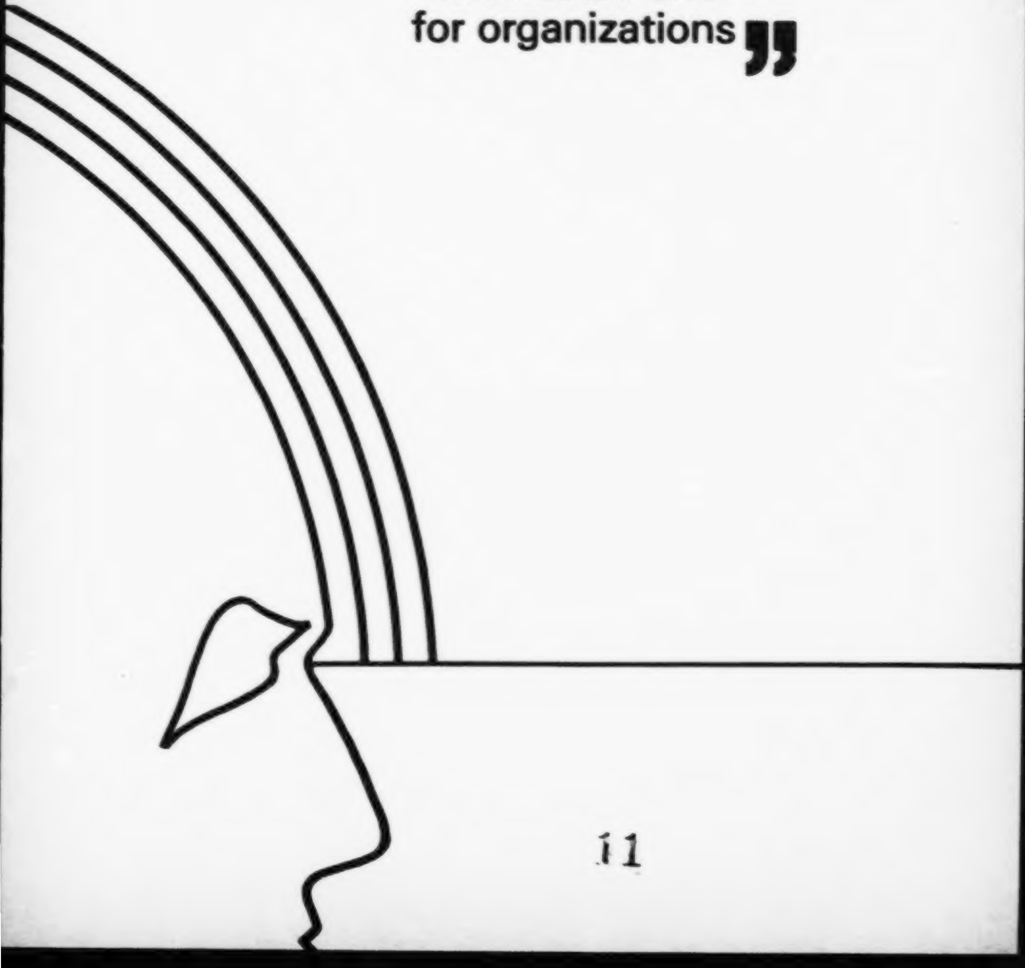
We feel the stress and anxiety of change and uncertainty. Many of us are angry. Having spent many years climbing to the upper levels of our jobs, we are not finding the compensation, perks, or relaxation we hoped would be waiting for us at the top.

Unexpectedly, we are working longer hours than we thought we would. Also, counter to what the media would have us believe about "yuppies" and young dual-income families, in many households two or more family members are working and still struggling to get ahead.

This book examines the changing nature of work, and suggests how these changes offer both challenge and opportunity. It argues for an entirely new definition of work in our lives, including implications for individuals, managers, and policy makers.

CHAPTER 1

"Work, career and retirement have new meaning — for individuals and for organizations"



CHAPTER 1

Work:
A Changing Definition

Since this book deals with many complex issues relating to a range of new technologies, a revolution in the workplace, and the prospects of earning a living in the 21st century, it is important that the basic vocabulary is clear.

That it is necessary to define work reflects the magnitude of the changes we are experiencing. "Work" is such a fundamental concept that we assume it needs no explaining — to say nothing of an entire chapter.

But the definition of work is important. It is around this fundamental concept that we build educational systems, plan our lives and careers, institute public employment policies and organize and manage our companies. If we base contemporary decisions around a definition of work that no longer applies to the realities of our economy and society, then it will be difficult to make the changes necessary to succeed in the new economy.

The most basic definition is the dictionary's. In Webster' s *New World Dictionary of the American Language, Second College Edition, 1982*, the formal definition extends a full column. The major elements of this definition are:

> **noun** *1. Physical or mental effort exerted to do or make something; purposeful activity; labor; toil 2. employment at a job or in a position 3. occupation, profession, business, trade, craft, etc. 4. location where one "works"* **verb** *1. to exert oneself in order to do or make something 2. to be employed 3. to perform its required or expected function, etc.*

and, further:

> *1. Continued exertion or activity, whether physical or mental directed to some purpose or end; labor 2. Acts, obligations that one does in return for something of value especially the activities by which one earns one's livelihood 3. Any prolonged or industrious effort. 4. Trade, occupation, business 5. A job or position; employment"*

A close examination of the definition reflects the idea that **"work" is a concept primarily of physical labor and a description of what one does for someone else to earn a living**. For the last 200 years, this has been true about work. People hired themselves out to labor at difficult tasks for eight to 10 hours a day to earn a paycheck.

Work was tiring and often dangerous. For the most part, it meant participating with hundreds of other workers who together tended production and assembly machinery of increasing size, speed and efficiency. Because of the danger and the dynamics of "hired labor," unions developed. Workers needed a voice to limit the common dangers, to provide a collective influence on the decisions which affected their health, safety and earning potential.

After hours of hard labor, the body needed rest. Men and women returned home to sit, read, and, as time passed, watch television to recuperate. After 30 years of physical labor, the body was worn out. It was time to retire; the aging body could no longer maintain the physical demands of work.

Compensation was tied to the ability to accomplish physical tasks as quickly and efficiently as possible. Insurance and workers' compensation laws and regulations were designed to compensate those who became physically impaired and unable to labor at full pace. Other regulatory efforts emerged to ensure safety in the workplace — to protect workers as much as possible from the physical, chemical and other risks associated with the dangers of work.

Traditionally, work has occurred at the same times for the majority of workers. Two hundred years ago, most people worked as farmers, the natural rhythms associated with the rising and setting of the sun established "work hours." Later, the economics associated with the use of electrical energy caused the machines that were the factories, mills and mines to start promptly at 7:30 or 8 a.m. and shut down at 5 p.m.

(though a few were kept going for 24 hours). We worked when the machinery we tended was turned on. We rested at night and on Sunday because we were tired.

Work, for most, required little more than the physical effort put forth. Creativity was certainly not called for nor expected. Promotions and success came with seniority, with dependability, with an extroverted personality and a capacity to learn the existing system and procedures well enough to teach others and to keep it running.

A few of the more fortunate and better educated became managers or engineers. They were responsible for the thinking and for the design and organization of the systems under which people labored. They wore white shirts and had their own offices and were responsible for hiring, firing and promoting. They also came to work at 8 and left at 5. When the machinery shut down, they, too, could go home.

Earning a Paycheck

For the last 200 years, work was clearly something we did for someone else. It defined a set of relationships that included management and labor, employers and employees, bosses and workers. Organizations hired "laborers" and "workers" to perform very specific, predesigned (even engineered) tasks. *What* we did, *when* we did it, and *how* we did it was determined, for the most part, by someone else.

Management and organizational techniques and skills were designed around the need to properly allocate specific tasks and functions to employees. They were recruited, trained and rewarded based on their ability to effectively meet the expectations of the employer. Standards of performance were established. Job descriptions were precise. Evaluations and promotions were based on the ability to complete assigned tasks and meet the established standards.

Loyalty and consistent performance during our working careers brought immediate financial rewards, plus continuing rewards in retirement. And part of the expected exchange in working for someone else was that they would take care of us. In exchange for the labor provided there were to be wages, insurance and other benefits now and a pension later. Work was a means to an end: we worked for the money and we worked for someone else.

For a large majority of people, employment opportunities and their expectations regarding work were determined by *where they lived*. As the industrial economy evolved, American communities and regions grew and prospered through the exploitation of available natural resources.

Another primary factor in our perceptions of work and employment came from our family. We expected to do what our father had done and our brothers were doing. At the same time, there was the effort and excitement of enabling one of the family members to go to college, to "get out," and become a "manager" or a "professional."

Work has been such an abstract and impersonal activity that it also defined a physical place. People went to "work" in the morning and left it at night. *"Where* do you work?" and "Who do you work *for?"* have been the means of placing individuals in the social heirarchy.

These circumstances produced important social and organizational behaviors. In the first place, employees were a part of larger "systems" in which they had few rights. As individuals, the idea that we worked for someone else remained and "worklife" was something distinct from our "real life." It was a necessity, but it was not a natural extension or expression of the individual.

This concept of "work" also insulated people from any real responsibility for the tasks they performed. As employees, we were simply attempting to meet someone else's expectations. ***We measured our accomplishments at work against someone else's standards,*** and even learned to succeed at things we have hated because that success brought financial rewards and security. More importantly, we shared the idea that our personal opinions, ideas, and concerns were not important.

Contemporary theories and the science of management and organization developed around these conditions of work. Realizing the need for efficiency and for higher levels of productivity, the physical motions associated with every aspect of a job were studied, reduced to their simplest movements, and standards were established for them.

The managers and the engineers understood the complex machinery and systems associated with the entire production process — the individual worker did not. As but one part in the overall machinery, each job had a precise role. To define each job and the expected levels of performance required the analysis and creativity of the few who were trained and educated in engineering, production and management. Once done, it was possible to write job descriptions which detailed how, when, and how fast the job was to be done.

A well developed and integrated set of job descriptions, skill requirements and organizational responsibilities made management more precise. Hiring was simplified as the available jobs were easy to describe, the training needs were spelled out, and the promotional sequence clear. The worker was expected to be little more than a numb participant in a highly engineered process.

Worklife Experiences Today

To consider the opportunities and the problems associated with worklife today and in the future requires us to develop an image that is appropriate to current and expected realities. "Work," "leisure," "education," "retirement," "employment," and "jobs" simply do not mean what they used to.

Few will experience work in the way the traditional definition describes it. Not many of us actually labor, and the number who do gets smaller every day. ***We are increasingly engaged in the work of the mind, not of the body.*** Technological advances are rapidly eliminating the need for humans to do the demanding, repetitive and boring work. Already many of the most basic and most dangerous of menial tasks are handled by intelligent systems of machines and this will increase.

Never before have we been in a situation where most people work with their minds. The earlier concepts of when, where, for how long, and even who has the ability to work are irrelevent. The mechanisms that have been built to organize, support, reward and train people for physical labor have little real value to a society working with its minds.

Perhaps the most basic and the most important change in our concepts of work rests in the idea that in order to be truly productive and satisfied with our work lives, we now must work for ourselves. This is a concept that runs totally against the grain of the traditional definition of work. But literally and figuratively, it is the simplest way to describe the new dynamics and character of work.

Many Americans are taking this definition literally. The explosion of new business start-ups that began a decade ago continues. More than 2,000 new businesses are started every day. Ten million people are self-employed and 23 million work at home. But the important issue is not entrepreneurship or individual proprietorships. It is a fundamental change in the role and importance of work in all of our lives.

Within most big organizations, the goals of "quality" and "excellence" dominate planning and statements of organizational intent (see Chapter 6). "Entrepreneurship" and "Intrapreneurship" are next (see Chapter 7). The push for new corporate "cultures" is driven by the need to create environments with higher energy, more creativity, and better quality performance. These goals cannot be achieved under the old definition of work. ***It is simply too difficult to excel for someone else or to be a successful intrapreneur by pursuing another person's ideas or ambitions.***

"Working for yourself" does not define an isolation or a selfishness, but identifies the true source of energy, motivation, responsibility and enthusiasm required for any individual or organization to grow and prosper in the current environment. This perceptual shift is critical if we are to understand the changes needed in our organizations and in management.

A state of mind

The key differences between working for ourselves and working for someone else emerged more than a decade ago as we watched the Japanese churn out an endless stream of high quality, low-cost products. "How do they do that?" we asked. After years of study and analysis, the answer came as quite a shock — one that has yet to be fully absorbed. ***"Quality and productivity improvement,"*** they said, ***"are a 'state of mind'."***

Individual performance is determined by personal commitment and effort, regardless of the standards, expectations and rules established by someone else. We get a glimmer of what this really means by a quick review of an *Esquire* survey of the "up-and-comers," the "best-and-the-brightest" in 1986. More than 800 readers answered a questionnaire. They were successful: median income exceeding $60,000; 75 percent male; 59 percent married and of those, 50 percent childless. As noted in the magazine, they worked hard and had deep personal motivations and expectations about their work:

> "Whatever their profession and regardless of age, sex, income or position at work, the respondents were resoundingly alike in one respect: their overwhelming involvement with their jobs. Overall, they put in an average of 57 hours a week, and 33 percent work more than 70. Of those working over 57 hours a week, three-quarters said that was the amount they like to work. If they switched careers they did it because of 'better opportunities for advancement' (39%), 'more intellectual challenge' (33%), or 'better opportunities to make a contribution to society'(19%). Only 4 percent said the best thing about their jobs was the pay. While 5 percent said they wanted to 'strike it rich,' 13 percent want to 'help people less fortunate' or 'leave a mark on my profession." (*Esquire*, December 1986)

The quality of our work is determined by our own actions, not someone else's. It comes through pride in what we are doing. Excellence is achieved only when we strive to attain it ourselves. What we are discovering is that all work and all jobs are done well or done poorly "at the discretion" of the individuals performing them. To do more physical work simply means working harder physically, to do more in an information and service environment means working smarter.

Successful groups and organizations will be those with large numbers of people working for themselves. Here the competitive battles of the future will be won or lost. From such groups will come the innovations, the creativity, and high quality products and services necessary for success in the years to come.

Employers can still hire people to work *for* them to perform a set of tasks or they can employ people to work *with* them in an effort to achieve a common set of goals. There is a very simple but fundamental difference between these two ideas. Learning how to organize and manage work under the new definition will be an exciting and important task for all organizations (Chapter 9).

Commuting and Other Relics of Worklife

Commuting is another relic of the industrial age that we force upon ourselves out of habit. There is increasingly less reason for the individuals who form an organization, or who are engaged in a project, to be at the same location at the same times for the organization to operate effectively. Tied together by the need to complete projects, meet goals, or build services rather than by the regular, constant movement of a machine they tend, people need to connect ideas, thoughts, information and knowledge. With computers and telecommunication facilities, this can be accomplished regardless of individual location or work patterns. Flextime and flexplace and flexcareer will grow to become the norm rather than the exception. There would be more of it now, but we are so wedded to the earlier definitions of work that it is hard to let go.

All this is complicated by another rapidly approaching twist to the employment schemes of the past: off-site employment, or, to be current, "telecommuting." Though most often viewed as an absolute condition; i.e., full-time employees working permanently at home through their computer terminals, ***the important reality of telecommuting is the explosion of potential times and places individuals will be able to work.*** It may be full-time, part-time, or as contracted service. The point is that the individual's relationship with the organization will increasingly defy all prior terms, conditions and policies.

Twisting career paths

Another fundamental concept behind our ideas not only of work and career, but of education as well, is the predictable 30-year "career path." This period, essentially spanning the ages of 20-25 to 55-65, was the time we worked, made our contributions to society, and provided for ourselves and our families.

We measured our material and organizational progression against this path. It made organizational charts and the paths to the top clear. Granted, we might change jobs once or twice as better opportunities came along, but there was little confusion or doubt as to the direction or even the expected speed of our climb.

The linear, time-phased path through life that went "childhood, education, work, leisure, retirement, gold watch, death" no longer holds. We are increasingly moving in and out of these experiences, defying traditional demarcations of age, status, and "common practice."

The turbulence and the uncertainty in the workplace could not be more clear. Everything is changing: every industry, every organization, every technology and every profession. ***Already, one of five people switches jobs each year, one of 10 switches careers, and 33 percent of all jobs today will be obsolete by 1992.***

The likelihood of being with the same organization for more than five years — to say nothing of 30 years or more — is very low. The reason for this is that it is difficult for any company to gain a clear notion of what it will be doing in 10 years. They may wish they knew, but our current economic and technological changes are so profound that all organizations will be vastly different in 1997. For example, American Can will probably not make cans. US Steel (now USX) may not be making much steel. General Motors could be completely out of the automobile business, and who knows what IBM will be doing.

If this seems absurd, try to define the precise nature of your own organization in 2007. Now write job descriptions for the top 10 positions and define a neat and orderly career path to get from today into one of those positions. If you get that far, assign a probability that you are right. And remember, this is only 20 years out, not the 30 or 40 years that constitute most careers.

Our current systems of organization, management, education and retirement all revolve around this core assumption of a 30-year career path. For individuals, the idea of a successful life pivoted on the ability to succeed along the path, up the corporate ladder toward the gold watch dangling at the top. Within organizations, personnel systems were designed to bring employees into the organization and guide and monitor their progress.

While we long ago gave up the idea of the gold watch, we are still stuck with the systems and operating assumptions that centered on the concepts of career paths that led to it. To succeed today and in the years ahead, we will have to invent new forms of management that meet the contemporary needs of organizations and the individuals within them.

The power of the 30-year career path as an organizing principle in our society cannot be underestimated. That path emerged as a logical extension of the industrial era and the steady, long-term development of the industries, technologies and products that formed the backbone of our economy. The American Dream centered on the Horatio Alger vision of the boy who worked his way up from the mail room to become the company president. The American Reality was an intense competitive struggle among individuals all trying to forge their way up the ladder to success. The American Manager was the MBA, trained not only to compete, but to design systems that would manage and control others in their efforts to succeed.

Uncertainty is the norm

Successful organizations today are those which are adapting their organizational behavior to the realities of the current environment. That environment is one of constant, unyielding change as we surge into the Information Age. ***Nothing is secure for the next 20 years.***

Technological, social, economic and political change is altering the dynamics of every marketplace and every institution from banking to health care.

Survival and success depend upon innovation, creativity and flexibility. Once rigid and inviolable policies and procedures of management and organization are being torn down in the scramble to meet new challenges and opportunities. The internal dynamics of all organizations are being reworked to develop new competencies and behaviors.

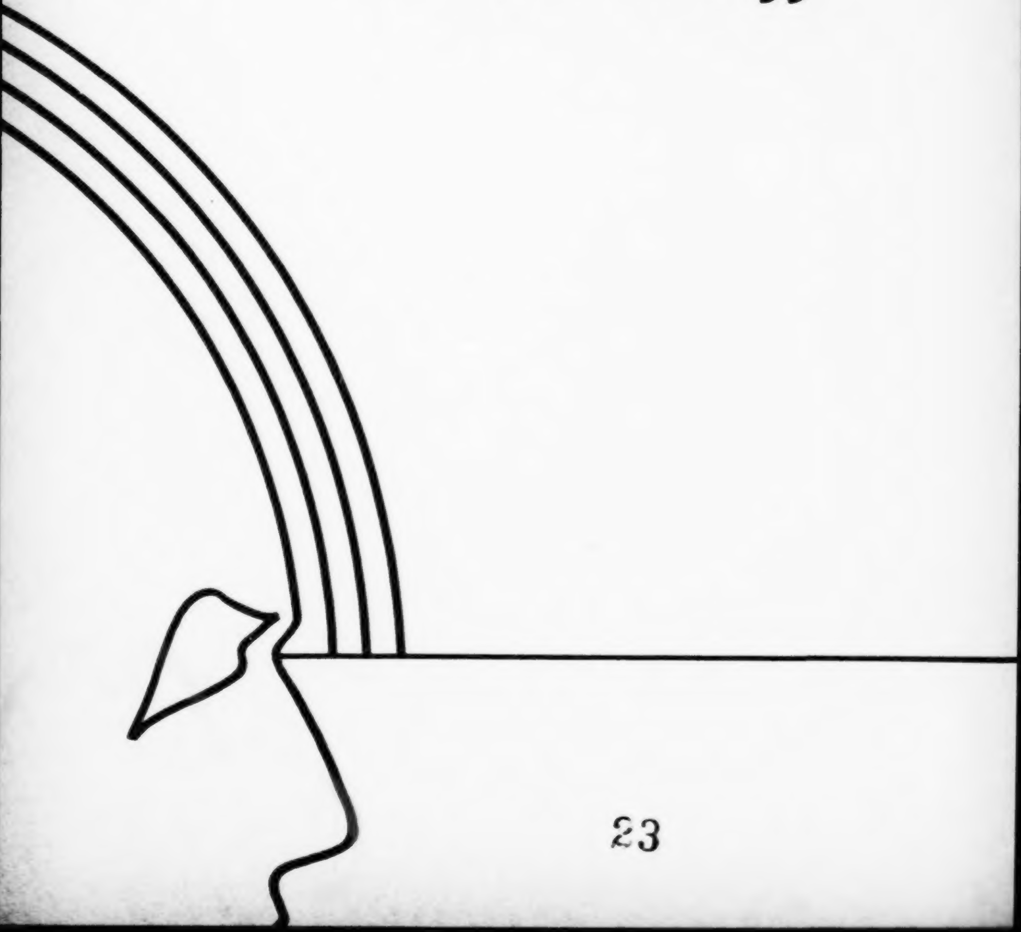
Today's new models of worklife are teams, work groups, quality circles, task forces, etc., assembled from among those within the organization whose mix of skills and experience — regardless of their previous position or place — best meet the current challenges.

The new hero is the entrepreneur, not the MBA. The new behaviors needed are cooperation and contribution to the group rather than competition among individuals. The new measures of success are found in the actual work product, not in the supervisor's performance evaluation of conformance to a tightly defined job description.

As a result, in place of the 30-year career path, we see the reality of multiple and evolving careers. Individuals will have to learn constantly and to experience things far beyond their formal educational process. Today, the change is so rapid and so deep that a particular "job" may have real value to an organization for only a few months. ***The real issue for individuals is not "job" security, but "employment" security,*** with a focus on employment skills ans the opportunity of individuals and groups to produce. The loss of security associated with the gold-watch era will urge more aggressive individuals to strike out on their own if they don't find relevant stimulation and opportunity through their employer. Success can no longer be defined in the old linear model of "up."

CHAPTER 2

"Becoming truly competitive in the global economy is our major challenge."



CHAPTER 2

The Information Age: A New Working Environment

The "information age" remains an abstract concept when applied to individual jobs, careers and responsibilities. "How does all of this talk of computers and telecommunications and a 'new age' affect me and my work?" is the question of greatest importance to most people. What does moving into the information age really mean?

In an historic sense, the modern world evolved from the Industrial Revolution that began in Europe in the 18th century. During the industrial period, the keys to success, growth and prosperity rested in the ability 1) to efficiently distribute raw materials and products and 2) to organize and manage increasingly larger systems of production. The railroads, the internal combustion engine, the interstate highways and later, aircraft and airports, eventually produced a global distribution network. The invention of the assembly line and standardization and, in the 20th century, management science, enabled societies to produce large quantities of a product at great speed, with increasing efficiency and at low cost.

Applied first to where most of the existing work was — farming — these technologies quickly produced sufficient gains in productivity to enable people to leave the farms and work in the production of other things. As these systems and techniques came together in manufacturing over a 200-year period, the mass-production of goods and materials brought the United States and the world to new levels of material wealth and prosperity.

The systems of production matched the needs, expectations, resource availability and "visions" of the vast majority of Americans. To accomplish what we did in 200 years required the creation of an entire intellectual, emotional and physical infrastructure designed to best meet the human, technical and resource needs of industrialization.

To maximize the country's natural resources and its opportunities to build this massive industrial economy, we created the needed cities, harbors, railroads, and ports. The responsibilities of governments, of the educational system, of unions, and of corporations were defined in terms of their ability to contribute to this economic miracle. Roads, highways, protection, educated workers, research, energy supplies, bridges, etc., all were designed and maintained because ***the existing economic system needed them.***

More importantly, our ideas about management, organization, education and work itself were developed to support and maintain this industrial system. Our thinking, research and creativity were focused on the extension and full exploitation of the sciences and technologies that had proven to be so important in the industrialization process. We had a framework — a set of rules — that we used to explain how things worked. We had a model of economic activity and of work based on 200 years of history. But that model does not fit the present, or the future.

The core industries of the industrial era formed and grew around this mechanical, energy-intensive, mass-production model. Steel, petrochemicals, automobiles, textiles, consumer electronics, electrical machinery, and the metal forming machinery industries defined the heart of the economy. The leading companies were U.S. Steel, General Motors, Standard Oil, International Harvester, Goodyear, DuPont, Boeing, Dow Chemical, Milliken, Corning Glass, etc.

These basic manufacturing industries have been struggling for many years. As conditions changed and new knowledge and technologies developed, responses were formulated based on the mechanical, industrial model, and it did not work.

A New Model

To respond effectively to the challenges and opportunities of the next 20 years requires a new model — a new set of "truths" to guide our thinking and decisions. What is needed is a switch from a linear/mechanical to a biological/systems model of reality. A very different model, it requires as great a change in the way we see reality as the shift from believing the earth is flat to believing that it is round.

The basic ideas of growth and progress change in this new model. Progress in a biological model does not mean more energy or more materials. It means substituting information for both. Biological processes "miniaturize" size, energy and materials but "explode" information. The kind of rapid, continuous physical growth that characterizes the mechanical model becomes a "cancer" in a biological model.

To describe the model that applies to an information age we can compare the changes in basic characteristics from agriculture to industrial to information-based societies and economies as follows:

	Agriculture	**Manufacturing**	**Information**
Dominant Technology	Plow	Machine	Computer
Science	Civil Engineering	Mechanical Engineering	Bio-engineering
Goal	Survival	Material Wealth	Personal Growth
Output	Food	Goods	Information
Strategic Resource	Land	Capital	Knowledge
Organizational Form	Family	Corporation	Networks
Energy Source	Animal	Fossil Fuel	Mind
Primary Work	Farmer	Laborer	Entrepreneur
Nature of Production	Self	Mass	Individualized

Defining the new model

Over the past several years, a group of individuals from diverse backgrounds and disciplines have been working to articulate the new model, or "world view." People like Peter Drucker, Fritjof Capra, Carlos Castaneda, Joseph Chilton Pearce, Daniel Bell, Hazel Henderson, Gregory Bateson and others have provided important insights into the emerging structure of the new economy. Because the model they seek to articulate is new, however, it is not easy to absorb. With its emphasis on "wholeness," cooperation and the mutual dependence of mind, matter and spirit, it suggests dramatic change from the models of the past.

The primary catalyst of the change, however, is the technology associated with microprocessors and computers.

Linked locally and globally through telecommunication networks, the emergence of computers presents us with a new base upon which to move forward. We have missed the full meaning of the change underway because we have studied these powerful new developments from the perspective of the old model. We have assessed the potential of television, telecommunication satellites, personal computing, biotechnology, cellular telephones, lasers, and the emergence of 4,000-plus online data bases as they apply to the mechanical, industrial model and have missed the most basic point.

The explosion of information in society, the ability to electronically access nearly everything being written about anything, the rapid and continuing diffusion of computers throughout homes and offices is literally, a *revolution* in progress.

Why a revolution? A revolution in society is an event that redistributes power. It can happen violently. It can also occur more peacefully, as it is now... so far.

Power in society accrues to those who have access to, and control over, information and knowledge. We are accustomed to power residing in the hands of large, centralized, national organizations and governments. For the past 100 years, it has been large institutions that actually had the information and knowledge needed to be productive in their areas of interest and responsibility. Big was not only better, it was best.

Bigger is the natural outcome of growth in the mechanical physics model and bigger has been the requirement to locate, obtain, manipulate and act upon the information and knowledge needed to be competitive. In today's world that is no longer the case. Look around. You will find a continuing and relentless splintering of the "large" into smaller and smaller pieces. You will see rewards accruing to the smartest and the quickest and the most intelligent rather than the largest. As the change occurs, you will also see the frantic behavior of the larger, older institutions as they grapple with what is a very basic loss of power and identity.

The United States has spent nearly two decades prying the federal government "off our back." This is not an invention of Republicans or Conservatives, it is a demand by the people of this country that has been underway since before we elected Jimmy Carter president. ***We are turning our attention to what we can do locally.*** We are seeing successes in community colleges while the large universities struggle. We see a continuing demise of international labor unions as individuals seek their own contracts. We see local and cable television growing while the networks lose market share. We see small specialty steel companies prosper while the giants fold. Huge department stores are dying as specialty retailers thrive.

The power will continue to shift to the individual and to small groups because the new technologies and the emergence of the "information age" means they have access to, and control over, essentially the same information that only the large institutions possessed in the past (see Chapter 4).

Most of the people at work in this country today do not labor in the fields, or in the mines, or in the factories. Most people work not with their muscles, but with their minds, and this will be more true in the future than it is today. Concern exists about this shift into information processing and services because some envision a time in which the United States no longer manufactures anything, but is dependent upon the rest of the world for all its goods and its food while we think, deliver pizzas, and give each other haircuts.

To be in an information age, however, does not define what you do. It defines how you do it.

We didn't stop producing food when we stopped being an agricultural economy; the reverse was true. With less than 2 percent of our work force engaged directly in agriculture, we produce too much food. We are able to produce so much food ***because we applied the techniques, the methods, and the technologies of the industrial era to agriculture.*** In the future, we will expand our manufacturing and agricultural output through the application of the techniques, methods and technologies of the information age to both.

Information-Intensive Products and Services

The trick is to fully understand the earlier concept of ***replacing mass and energy with information and knowledge.*** We will succeed or fail in the global economic environment to the degree that we are able to embed information and knowledge into our products and services. This applies as much to steel as it does to computers or financial services.

How do you put information and knowledge into steel? You do it three ways:

1. Through the continuing study of metallurgy, chemistry and physics to understand the potential and capacities of steel and its alloys better than anyone else.

2. Through the utilization of information and knowledge contained within microprocessors and computers that control robots and other automated manufacturing systems so that the steel-making process is smarter instead of larger and more energy-intensive.

3. Through the constant and careful exchange of information with customers to understand their needs so well that the steel satisfies those needs.

Specialty steel companies are information-intensive. While the traditional steel producers competed on the basis of their massive size and mass-production of standardized products, the specialty steel producers have focused on quality. They developed the skills and behaviors required to gain knowledge, improve craftsmanship and increase flexibility. As a result, they have prospered while the larger, traditional facilities have been losing millions of dollars.

This same set of conditions holds as well for automobile producers, appliance manufacturers, insurance providers and retailers. The market today — a more informed, more individualized, more independent market — purchases more than the material within a product. It also buys the information and knowledge within it that transmits quality, function, style, purpose. In terms of material, there is very little difference between a Chevrolet and a Toyota. In terms of the information and knowledge that has been built into the product and manufacturing process, the difference is enormous.

Bypassing the middleman

Other things happen in an information economy that reshape our models of organization, marketing, management, distribution and competitiveness. Things like shopping from the home. The old model of retailing and marketing assumes that when people want to buy something, they travel to a store to make the purchase.

The old model says that as intelligent shoppers, we work to find the best deals. We read the ads, check the yellow pages, read consumer reports and compare prices. Retailers, in the meantime, must order, store, display and then merchandise pre-selected items that they believe consumers will want. Prior to display, goods must be shipped from a warehouse where they have been received from a manufacturer and stored awaiting redistribution. We understand this large, complex and cumbersome system of distribution. It fits the model.

In an information economy, however, there are other ways to handle those transactions. Increasingly, we can order products from our home. While we are accustomed to the casual use of catalogs, we have missed the full implications of the explosive overall growth of purchasing from the home using television, telephones and computer "malls." Currently, the volume of retail purchases made from the home is approaching 20 precent of the total and is growing.

It is growing because ***people are beginning to invent new ways to put the information technologies to work.*** Much as the automobile and roads changed society a century ago, computers and electronic highways are changing them again. One innovative firm, Compucard, now has three million individuals paying $39 a year for access to its database of products. A simple telephone call on an 800 number gives subscribers access to 250,000 items. After the customer designates the desired item, a computer scans a list of bids from more than 500 independent distributors, wholesalers, and retailers for the best price, placing the order with the lowest bidder. The product is then billed electronically to a credit card and shipped to the customer's home.

This reflects a new model where information regarding availability, price, performance and payment methods are accessible from the den. The entire transaction can be completed, and the product shipped directly to the consumer. This "bypasses" the intermediaries between the producer and the consumer. There is reduced need for investment in warehouses, stores, inventory and all tasks associated with them. The same thing is occurring in financial services, including both banking and the sale and purchase of securities.

One way to visualize the nature of the changes underway is as a massive "bypass." In medicine, surgical bypasses are performed when an artery or vein has become so clogged that it no longer meets the needs of the body and threatens to stop the heart. In a society seeking new flexibility, responsiveness and a reduction in costs, any system that is clogged from years of neglect will now be "bypassed."

The competitive tasks are changing. The organizations, industries and tasks that were essentially created to act as an intermediary between a user and a producer of a service become increasingly less valuable when individuals are able to obtain the information they need themselves.

As explored more fully in Chapter 9, it is this redistribution of information and of tasks that is causing the restructuring of entire industries, the shape of organizations and the nature of our work.

Changing Concepts of Time and Distance

Another complex and disturbing aspect of the new reality is that it requires a change in our ideas of such basic things as *time* and *distance*. We think of other places, for instance, in terms of the time: how long it takes to travel from here to there. Now, any city or country is only as far away as a computer terminal, a telephone or a television set. There is immediate connection and an ability to transmit information instantaneously — regardless of distance. With the shrinking globe comes entirely new forms of awareness, opportunities, and problems and an inability to avoid being affected by developments occurring in other nations.

Time itself is also a concept undergoing redefinition. How long it takes to accomplish something has to be rethought. Getting a proposal to a firm 3,000 miles away used to take days. It had to be composed, edited, proofed, copied and mailed. It was then opened, reviewed and commented upon. Days passed and entire systems revolved around this concept of "how long" it takes for such a transaction to occur. Today, it can take place almost instantly. As soon as the proposal is proofed it can be received electronically by the recipient. It can be shared with 20 other people in the organization — instantly. Their comments can be received, compiled and returned to the sender that same day. What took weeks can take days, what took days can be done in hours, what took hours can be done in a moment.

This alone expands our capabilities enormously. The new information technologies explode our capacity to accomplish things. The increase in speed, however, is occurring today in organizations built around conditions designed for much slower transactions. Indeed, current organization structures can hinder the communication, preventing the accomplishment of the task. It is difficult to reorganize and to make the investments necessary to capitalize on the power of the new technologies because we have no precedents for measuring the value of things not directly related to the prior model of industrial production.

The very character of information and knowledge is so different from the properties of material resources that all our techniques of measurement and establishing value do not work when applied to them. The industrial models of economies and societies describe procedures directed toward the extraction, storage, distribution, shaping and consumption of materials and assume scarcity and deterioration. They are based on competition for finite material resources and that there will naturally be winners and losers in that battle.

The predominant individual motivations in an environment where value is associated with material consumption is expressed today as: "He who dies with the most toys, wins."

Information behaves very differently. It does not get used up. It can be given away and retained at the same time. It has more value in quality than in quantity. It is the primary resource of future economic progress and we do not yet know how to value it.

As Americans look for new role models within this new economy, they face an emotional problem. To visualize the driving force behind the new economy requires replacing the strong-backed, tough and brave AMERICAN WORKER with, to use a popular term, a NERD. Gentle, creative, and cooperative — working at a terminal or tending a work station of robots — runs directly against the grain of the traditional image. To be outplayed, outfoxed and outproduced by teams of "nerds" is difficult for many to swallow.

This image problem is not insignificant. The image of a "worker" in our economy brings different pictures and different stereotypes to those now classed as "white-collar" or "blue-collar" workers. They are both wrong.

The transition to the Information Economy is underway. The pain and the difficulty of the change will be determined by our ability to move past our ideas, models and concepts of the past and to envision the challenges, the tasks and the opportunities ahead. Without the commitment to the future, without the vision, we will enact policies and programs that will be of little value either to the people they are intended to help or the nation as a whole.

The New Rule of Competition

Since we are all so well-trained in the traditional models of learning and proper behavior, it helps to have a "rule" that describes the impact of these revolutionary changes. The rule is a variation on Pareto's Law; it is the "80/20 Rule of Competition:"

> ***80 percent of what any organization does today can be done equally well by any other organization*** choosing to compete because access to the information, knowledge, raw materials and technologies needed to do the core, repetitive aspect of any task, is available to anyone who wants it. Therefore, all organizations and countries will succeed or fail based on their ability to utilize the other 20 percent, ***and the other 20 percent is all people.***

The irony of the high-tech age is that it makes people more important — not less important. The technology, the capital and the raw materials are no longer the competitive issues. Of course they matter — but they no longer distinguish one organization from another. Computers and robots will increasingly be available to do the "industrial," the "standardized," the "heavy" work. Bending these tools to creative and productive use to meet the demands of a changing marketplace and employing the best of the new knowledge is a challenge to individuals and to teams of individuals.

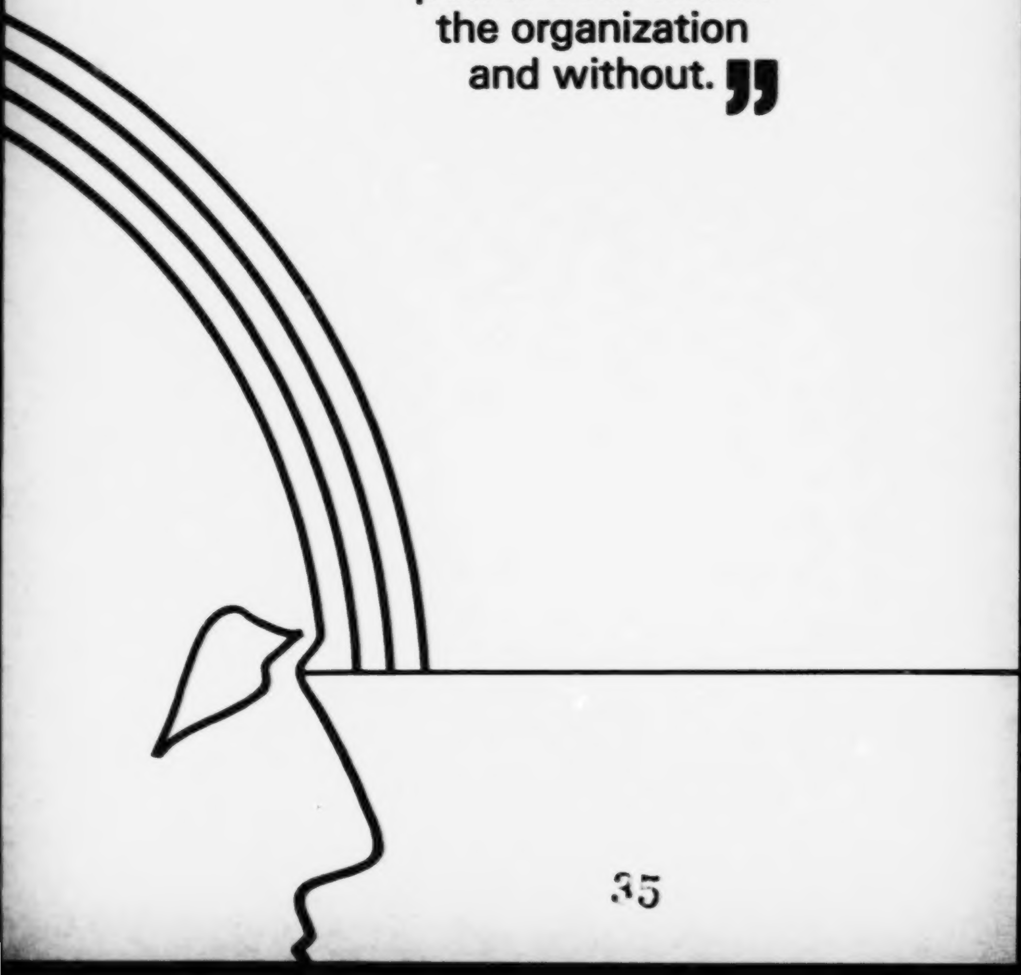
Make no mistake, the new information environment affects all forms of work. And it dramatically changes the importance of an educated work force. Once jobs could be filled by anyone willing to do the physical work associated with them. In the future, there will be precious few of those opportunities. To varying degrees, all activities will employ the new potentials represented by computers and other aspects of information handling.

Because this is a new age, we cannot expect to understand it fully or to project 20 years ahead with high degrees of certainty. What must be embraced, however, is a real willingness to change, to learn, and to accept uncertainty as the norm.

One thing is certain, however. ***Progress cannot come from attempts to preserve the past or protect the present.*** With powerful new tools at our disposal, great social and economic gains are possible. All that is required is the vision and the will to make them happen.

CHAPTER 3

> “The information revolution redistributes power both within the organization and without.”



CHAPTER 3

The Economy and the Work Force

Employment opportunities are created by the strength, the direction and the capacities of the economy. Therefore, it is important to frame any discussion of work within the context of the changes and developments reshaping both the U.S. economy and the work force itself.

One of the most dramatic symptoms of the rapidly changing economy of the mid-Eighties is the continued turbulence in the workplace. No organization, profession or community has been unaffected by the continuing series of layoffs, plant closings and early retirements. At the same time, jobs are being created at unprecedented rates: 700,000 new businesses are being established annually and there are worker shortages in some places.

The turbulence and dislocations affect everyone. For those still in school, there are few certainties in selecting a career, or industry, or profession that assures stable and rewarding employment. Those already employed find prior hopes and expectations regarding their careers threatened. Managers face a difficult challenge of motivating and retaining employees in an environment of increased uncertainties and must grapple with the more difficult task of letting people go. Politicians and elected officials are pressured to make promises of protection to constituents seeking relief from the challenges of the global economy.

The debates in Washington will be heated as the magnitude of the changes in economic realities reach Congress. Policies, programs, measures and assumptions that guided prior decision-making were established for an industrial era. As that era passes, congressmen, senators and others must seek new policies and new measures to better reflect the needs and the opportunities of an increasingly integrated global economy and an information-driven society.

The most passionate and hard-fought debates will be those surrounding employment. An article entitled "A Shifting U.S. Work Force for a Changing U.S. Economy" in *The Washington Times* in February 1987 stated:

> "Summary: It seems clear that the U.S. economy is evolving from a manufacturing to a service orientation, although the observers dispute the pace of change, how long it has been underway and whether it is accelerating. The topic of most heated dispute is the shift of workers to the newly created jobs and whether they are doomed to a low standard of living by the very nature of work in the service sector."

It is the "nature of work" that subsequent chapters attempt to clarify. It is the sense of doom arising from many quarters that can prevent the nation from seizing upon the opportunities the new economy represents for everyone.

With all the turbulence, it is important to note that more Americans than ever before are working, with more than 61 percent of the adult population employed. No economy in the world has been producing jobs at the rate that the United States has and its work force now numbers more than 110 million. Since 1970, the economy has absorbed both the large number of baby boom workers and the movement of women into the work force by creating 36 million new jobs. There is an entrepreneurial explosion in the country as well. More than 60,000 new businesses are being established each month in addition to an equal number of partnerships and other unincorporated businesses.

Since the early Eighties, inflation has dropped below 4 percent, interest rates have dipped below 9 percent and unemployment has remained relatively low. Unfortunately, all these statistics reveal little of real value regarding the current and future prospects for employment. On the contrary, they can actually be misleading as they conjure images that fit our history well, but no longer apply to the conditions of today.

A Powerful Economic Past

When assessing the current economic environment, it is important to understand the economic experience of the previous half century. From just after the Great Depression until about 1975, the world enjoyed an extraordinary period of economic growth. From 1955 to 1975, for example, the world economy grew 500 percent from $1 trillion to $5 trillion. Economic growth was sustained and consistent, with American products and technologies clearly setting world standards.

It is from this prior experience that our basic "ideas" of work and the economy were formed. To a large degree, our current difficulties stem from an attempt to continue on as if those conditions still exist. They don't. ***The good old days are gone.*** Unfortunately, it is difficult to accept a condition where future prospects may not be as bright as they once were.

When reviewing the impact of the decline from the constant growth of the past and its impact on incomes and expectations, a December 1986 *Washington Post* article titled "1973-86 No Gain; All Tricks" explained the difficulty this way:

> "In the same way that the generation that came of age during the Depression was never able to forget the experience, those who came of age after World War II have come to expect an ever-increasing standard of living as a natural right, an entitlement like Social Security, Medicare or Food Stamps — not embedded in the Federal Code — but a basic right nonetheless."

From World War II through 1973, real wages grew steadily, causing a continuing growth in consumption and the economy. From 1973 to 1985, *real wages* (adjusted for inflation) *have declined* and Americans struggled to keep pace with earlier progress as well as with their material expectations. To maintain their standard of living, however, people have had to make major adjustments in their lives. Consumption and the economy have grown since the early Seventies only because a greater proportion of the population is working. One wage-earner has proved inadequate to meet needs; wives have gone to work, marriages have been postponed, child-bearing has been delayed, and current consumption levels have been fueled by a significant increase in consumer debt.

And not only are more people working; everyone is working longer. Contrary to the confident projections of the Sixties that the work week would shrink to below 35 hours by the Eighties, the work week has gotten longer. According to Lou Harris polls, from 1973 to 1984 the average hours worked per week climbed from 41 to 47.5, and leisure time has dropped from 26 to 17 hours per week.

The decline

Behind the disturbing declines in personal and family income and material well-being, and a faltering economy is the reversal of the long term trend of continuing increases in our productivity. As explained more fully in Chapter 6, productivity measures indicate the ability to "produce more with less." ***It is only from productivity gains that rises in standards of living are possible.*** U.S. productivity during the peak years of the modern industrial era grew constantly for nearly 30 years. It weakened in the Sixties, however, and took a nose dive for the last 17 years.

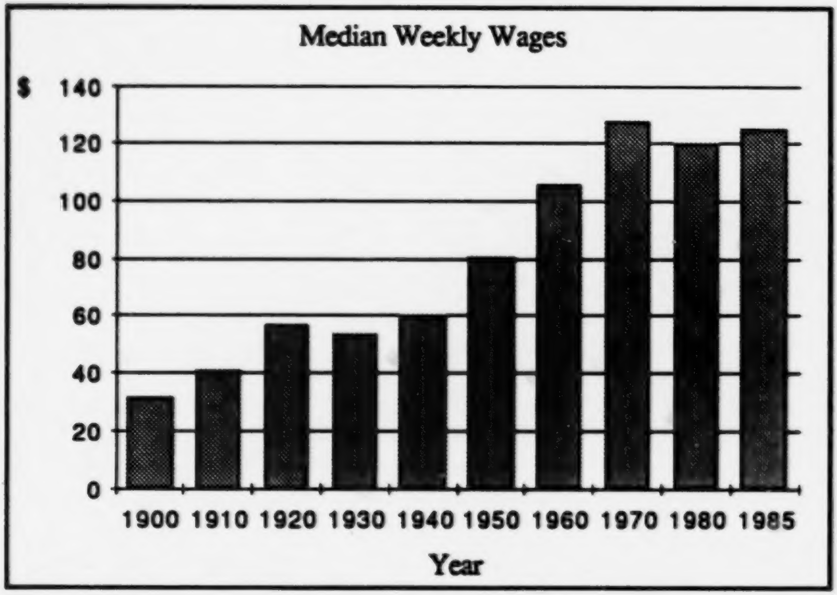
U.S. PRODUCTIVITY GROWTH 1945-1986

Period Increase	Avg. Annual Productivity Increase
1945-65	3.2%
1965-73	1.8%
1973-80	.6%
1980-86	.9%

These apparently bland numbers have real impact in terms of the economic progress they represent. An annual improvement in productivity of 3.2 percent, for example, means that productivity doubles every 23 years, or once a generation. This means twice as much output for the same total resources consumed and this translates almost directly into the same level of increase in standard of living.

To reach the same result when productivity is improving at only .6 percent per year takes 120 years. Such an economic environment requires vastly different strategies, expectations and behaviors than when productivity is improving five times faster. It is also one that should stir the nation to serious efforts to improve, to dedicate the resources and the attention necessary to return to the conditions that yield the type of productivity gains that assure improved living standards in the future.

The relationship between productivity improvements and individual well-being can be seen by looking at the changes in wages over this same period.



Another measure of the rewards from work and the American Dream is the improvement in earnings that occurs at the peak of one's career, between the ages of 40 and 50. It is over this period that one expects to reap the rewards of several decades of hard and loyal work, put their children through college, and set something aside for retirement. In modern times that has been the reality, at least for the generation who reached 50 by 1973.

Those reaching 40 in 1953 had realized an average wage increase of 54 percent by 1963. Those reaching 40 in 1963 had a 29 percent gain by their 50th birthday. The latter gain was not nearly as significant as for the prior generation, but it was a gain. Those born in 1933, who watched as the two generations ahead of them improved their financial status between 40 and 50, had a significantly different experience. The average change in wages for those reaching 40 in 1973 was ***a decline of 14 percent*** by the time they reached 50 in 1983.

The impact of this economic stall is widespread and threatens to seriously damage other core aspects of the American social and economic fabric. The middle class appears to be shrinking and the prospect of owning a home — such a key aspect of the basic American Dream — is becoming more difficult than ever before for most Americans.

What middle class?

The middle class is defined as those families making between 75 percent and 125 percent of the median income for the country. Under this definition there were 700,000 fewer such families in 1984 than there were in 1983. In 1976, 27 percent of American families qualified as middle class. By 1985, it had dropped to 23.2 percent.

For the average 30-year-old worker in 1973, the mortgage on a single family home equalled 23 percent of his or her gross earnings of $23,600 (in 1983 dollars). By 1983, the 30-year-old was only earning an average of $17,520 and the mortgage on the same home required 44 percent of gross earnings. Throughout the Seventies this meant that 75 percent of American families could afford a home. In 1984, when families were smaller and more of them had two incomes, only 33 percent could afford to own their own home.

There has been great interest and much discussion about the "boomers" and about the "yuppies," and many have formed the impression of widespread prosperity among those groups. Stories of two professionals earning more than $100,000 a year fill popular magazines and form the background for national television commercials. And this is a strong consumer segment. It is not, however, reflective of the baby boom generation. Of the nearly 70 million members of the baby boom generation who are currently employed, only 3.6 million (5.1 percent) have incomes of more than $35,000 a year. On the other end of the scale, 32 million (45.7 percent) have incomes under $10,000 a year.

All of these statistics reflect the impact of the end of the industrial era — the end of a long period of economic growth based on the techniques and skills associated with mass production. For as long as it was true that "what is good for General Motors is good for the country," the basic industries (steel, automotive, energy, chemical, industrial equipment, chemicals, consumer products, rubber, etc.) were in a position to pay generous wages as their markets grew and productivity increased. The core of middle class America was the blue-collar manufacturing worker who, after 12 years on the job, was making $40,000 a year, owned his own home, two cars and a boat.

It is these jobs that have been disappearing over the past decade and a half, however, as the United States has found that companies in other corners of the world can produce products of both superior quality and lower cost. The technologies and the facilities necessary to achieve mass production now exist in countries where wage rates are 10 percent of what they are in the United States. Competition in the global arena has stiffened and American manufacturers have been forced to seek cost reductions where possible.

In general, the economy has shifted to one where the new jobs are in the service and information sectors and the old industrial giants have lost their market and financial power. The result has been a decade of plant closings, layoffs and early retirement programs that have eliminated millions of the highest-paying blue-collar jobs. From 1979-84 alone, it is estimated that more than 11 million manufacturing jobs in basic industries were eliminated and they continue to be eliminated at the rate of 50,000 to 60,000 a month. (New manufacturing jobs are being created at almost the same rate as the old ones are being eliminated, but these are new types of jobs or are in new industry. In either case they pay, on the average, far less than the jobs that have been eliminated.)

These shifts obviously have a significant economic impact on the individuals and communities whose livelihoods depended upon the continued existence of the old industries and prior pay scales. The problem is not that there are no other jobs being created in the economy, but the average wage rates are lower in the new manufacturing industries and in the service sector. There are fewer and fewer $20 an hour jobs and a great increase in those paying $10 an hour or less.

As shown here, there are significant differences in the average hourly rates for different industries. In the newer "high-tech" manufacturing area, for example, the average wage is only 70 percent of that paid in the much older — and declining — petroleum industry. Retail wages are less than half those in steel, or automobiles, or mining. And the average hourly pay for all workers in 1986 was only $8.88

($19,186 a year), which is far below the averages in the basic manufacturing sector.

Industry	Hourly (Average)
Petroleum	$14.29
Steel	$13.84
Motor Vehicles	$13.62
Tobacco	$13.06
Mining	$12.65
Construction	$12.57
Chemical	$12.16
Trans/Public Utility	$11.71
Electronics	$9.81
Finan/Ins/Real Estate	$8.61
Retail	$6.00

Currently, there are approximately 23 million people employed in manufacturing. The highest wage rates are paid to those in the mature industries, in the industries that face greatest challenges as the economy shifts gears. Those who are dependent upon these industries for employment, directly or indirectly, face continuing change and an erosion of the expectations for advancement and for increased earnings.

White-collar blues

To complete the general picture on employment, there are still nine million people out of work in 1987 and another 6.7 million who are only earning the minimum wage. Of these unemployed and underemployed, the vast majority are minorities. Their prospects of employment continue to be much bleaker than those of the majority of Americans. While only 5.8 percent of the white work force is unemployed, the Hispanic rate is 11 percent, and for blacks it is 14.6 percent. Other data indicate that one of every 10 blacks in the work force is earning minimum wage.

America's perspective on unemployment and layoffs will change. It has recently become clear that the threat of being unemployed is as strong for white-collar workers as for those at the lower end of the organizational and professional spectrum. The U.S. Bureau of Labor Statistics estimated that by 1986 white-collar jobs were being eliminated at the rate of 100,000 a year and that 2.5 million white-collar workers were unemployed. A major business publication, *Dun's Business Month*, reported that 35 percent of the middle-management jobs in 1981 were eliminated by the end of 1986.

It was during this period that a major effort was begun by corporate America to "down-size." ***During the three-year period from 1984 through 1986, more than half a million middle-managers were fired, laid off or given early retirement as their employers struggled to reduce costs and become more competitive.*** In the 18 month period from January 1985 through August 1986, more than 300 of the largest U.S. firms reduced their work forces.

What is impressive about the layoffs and what is causing the real shift in the basic understanding of employment in the current and future economy, is that these layoffs cut across all firms, striking even the largest and most stable of employers. When the employment picture in AT&T, GM, IBM, CBS, Bank of America, Ford, DuPont, etc., looks uncertain, there is an inevitable sense that it cannot be better anywhere else. Confidence in the economy and in the prospects of future employment must be affected when AT&T announces a 1987 layoff schedule that will trim 27,400 from its 321,000 person work force, and shortly thereafter GM puts 36,000 of its 380,000 employees on "indefinite layoff" and announces it will trim 44,000 white-collar jobs. A career with these firms once epitomized the best possible security and promise.

When you add another 287 big names to the list of those companies which have reduced their employment figures, a very clear picture of a turbulent workplace appears. The personal and family impact is high when the bulk of the reduction effort is directed at those in their 50's. Born in the 1930s and starting their careers during the boom years of 1955 to 1975, this is the very group whose expectations of continuing financial gain from dedicated and satisfactory work is the highest. And as we will see in Chapter 9, these people are not taking the sudden shattering of their dreams willingly.

Work Force Reductions, 1985 to 1986

FIRM	REDUCTION	% of WORK FORCE
Apple	1,200	20%
ARCO	6,000	18%
AT&T	35,000	10%
CBS	1,175	14%
Cessna	1,000	21%
Combustion Eng.	7,300	20%
DuPont	12,000	11%
Kodak	13,700	10%
GE	26,000	8%
Greyhound	3,000	21%
Intel	2,600	10%
Union Carbide	8,000	8%
Wang	3,200	10%

The Broader Picture

To gain insight into what is going on requires acceptance that the changing economy is no longer accurately measured or defined through the "national averages" we are accustomed to studying. Macro-level measures of employment, production, industrial capacity or market performance, such as GNP, Consumer Price Index, national unemployment rate, numbers of automobiles produced, Dow Jones Industrial Average, etc., simply do not tell us what they once did. Those measures were designed for an economic reality driven by tightly defined industries and national boundaries. Today, the United States is an active participant in an integrated global economy where technologies, markets and industries are changing at unprecedented rates. Because of the instant global transmission of information, money and knowledge, the relevant data and measures must reflect this new reality.

Examining the strength and direction of the U.S. economy, therefore, requires that it be placed within this international context. There is nothing that any American organization does that is not directly affected by developments throughout the world. The emerging technologies, the competition and the opportunities are global.

We must evaluate the trade deficit in this context. There is a very clear message that we are not producing enough goods and services that pass the test of international competition. We have a trade deficit not because we import so much, but because we export so little. More importantly, U.S. international trade, measured as the total of imports and exports, now exceeds 25 percent of GNP and is rising. But while the rest of the world has changed around us, America has been slow to seek the policies and behaviors necessary to change with it.
In companies and in government, we are still utilizing the measures, the policies and the tools designed for the early 20th century to establish a leadership role in the 21st century.

Once, we could count on the income generated by exports. We were the world's leading provider of both manufactured and agricultural goods, and we thought it would continue forever. Unfortunately, change has occurred in the most vital component of any economic endeavor — the market. Major customers of agricultural products in both Asia and Latin America have become exporters themselves. Foreign manufacturers have done a better job delivering quality products in a fragmented, rapidly changing worldwide marketplace.

There will be deep and heated debate regarding the trade issue and the factors that make a nation strong. However, insistence that our competitive problems are somehow associated with the "unfair practices" of foreign companies and governments ignores the fact that our trade problem is based on the performance of U.S. manufacturers in a global environment.

As Senator Phil Gramm of Texas recently said:

"America's victories have been built on the free world's prosperity; *protectionism is a dagger aimed at its heart.* The awful frightening truth is that to begin a trade war is to guarantee the loss of the cold war and to imperil the future of freedom and prosperity on this earth." (emphasis added)

Employment in the Global Economy

The global meshing of economies has a direct and lasting effect on employment opportunities and issues. ***All organizations, regardless of locale, now must evaluate work force skills, costs and availability on a global basis.*** In the United States, for example, as we rightfully struggle to make adjustments for the loss of jobs due to foreign competition and imports, it is also true that Americans will be working for foreign firms based in their own communities. All countries lose jobs due to the imported products and services that could otherwise be generated locally. And all countries gain jobs through their exports and through foreign investment within their borders (see Chapter 5).

It is a dynamic, fluctuating set of circumstances that can only be evaluated within the global context. Because America is so accustomed to being a net exporter and being a foreign investor itself, it is having a difficult time creating policies and programs that effectively adapt to a reversal of the situation. It sees the negative impact of imports directly now that our trade deficit exceeds $160 billion. With estimates that each $40,000 in deficit causes one lost job, the deficit has eliminated four million U.S. jobs.

Beyond this, however, is the fact that the American economy is extremely resilient. Records from the U.S. Bureau of Labor Statistics show that of those workers displaced by imports over the past five years, half found employment as good as, or better, than their previous jobs and fully 67 percent returned to work. Of the other third, approximately half left the work force, with the balance unemployed.

The continued restructuring throughout the economy extends far beyond the direct impact of imports. It is an unfortunate aspect of transition as older industries, technologies and products can no longer compete. A 1986 Task Force on Economic Adjustment and Worker Displacement called for a $1 billion federal retraining program to assist workers displaced by plant closings, layoffs and other job losses due to foreign competition. The report issued by the task force said that more than one million workers are displaced each year, and said "investing in retraining is clearly something society should do."

The assumed direct relationship between trade deficits and job losses, however, is refuted in the broader global context. Here the evidence from 1980 to 1985 is contradictory. In the United States, where deficits were large and growing, there were large increases in jobs as the deficit grew. In the United Kingdom, on the other hand, as the deficit grew there were decreases in the number of available jobs. As the trade surplus increased in Japan, the numbers of jobs increased; while in Germany, which also experienced an increase in the trade surplus, jobs were down.

Economies and employment are clearly more complex and dynamic than the simpler conditions of 50 years ago and it is more than a matter of imports and exports. Under any circumstances, the United States must balance its trade accounts. It must produce the goods and services that contain the quality, price and performance that others want and for which they are willing to exchange an equal volume of products and services. This will occur only if the nation can improve its productivity, and the quality of its products and services.

Given the relatively poor performance of the past 15 years, there is an important opportunity for improvement. That our work force can turn out superior products and achieve higher levels of productivity has been amply demonstrated by the results of plants in the United States operated by Japanese firms. The large increase in foreign investment in the United States, both direct and indirect, also suggests that when viewed from abroad, confidence in the potential for improvement and growth in the U.S. economy appears high.

Employment projections

But where will the employment opportunities of the next 20 years be? When you get past the theory and the macro-level statistics, what concerns most people is the ability to make good decisions about their education, training, careers and manpower planning. What we seek are projections about demographics, salary ranges, industry hiring, and employment.

Looking to 2007, however, we are on slippery ground when making or evaluating such projections. For the most part, they are still rooted in traditional definitions and assumptions about work and the economy that can be very misleading. There are some important basic considerations to keep in mind, however.

First, the creation of jobs and employment opportunities are not where we ordinarily think they would be. They are not within the *Fortune* 500. The reverse is true as U.S. jobs are created by the smaller, younger firms. We forget that of the 5.5 million companies in the country, only 16 percent have more than 20 employees, and only 5 percent have more than 50. From 1979 to 1984, total U.S. employment rose by 6.3 million jobs, but the *Fortune* 500 reduced their employment by more than two million. As a better example, large steel producers have had massive employment declines over the past 10 years while smaller, specialty mills have increased employment 80 percent. While manufacturing jobs in total have remained essentially flat, the restaurant and health care industries have been adding 200,000 jobs a year each.

Second, at the individual workplace level, the nature of the jobs, regardless of how they are classified, is changing dramatically. It has been estimated that 50 percent of the actual jobs being performed in 1987 did not exist in 1967. The rate of change is not slowing down and ***we can expect that by 2007 essentially all of the work will be new.***

The reason for these changes is simple. Jobs, work, services and organizations form and reform based on available information and knowledge. The amount of information available is doubling every two-and-a-half years now. This means 90 percent of the information available to workers in 2007 will be created after 1987. Put another way, all of the knowledge that people have to work with in 1987 represents 10 percent of what will be available in 20 years.

At the moment, the best career and employment projections are those that indicate continuing flux and changes in the workplace. Some of the bolder economists and demographers have projected employment conditions more explicitly. But while some predict a shortage of workers, others are projecting widespread unemployment. Still others foresee an increase both for professional, high-paying jobs and for the lowest paid, leaving the middle empty and creating a two-tier economy. There is no consensus from the experts.

The type of projections that are sought are like those in tables which follow. These are estimates by the U.S. Department of Labor of the largest and fastest growing occupations from 1985 to 1995.

JOB OPPORTUNITIES **(numbers in thousands)**	*employment*		*change 1984-1995*	
	1984	**1995**	**no.**	**%**
Occupations with largest job growth				
1. Cashiers	1,902	2,469	566	29.8
2. Registered nurses	1,377	1,829	452	32.8
3. Janitors and cleaners, maids	2,940	3,383	443	15.1
4. Truck drivers	2,484	2,911	428	17.2
5. Waiters and waitresses	1,625	2,049	424	26.1
6. Wholesale trade salesworkers	1,248	1,617	369	29.6
7. Nursing aids, orderlies, attendants	1,204	1,552	348	28.6
8. Salespersons, retail	2,732	3,075	343	12.6
9. Accountants and auditors	882	1,189	307	34.8
10. Teachers, kindergarten, elementary	1,381	1,662	281	20.3
Fastest growing occupations				
1. Paralegal personnel	53	104	51	97.5
2. Computer programmers	341	586	245	71.8
3. Computer analysts, data processing	308	520	212	68.7
4. Medical assistants	128	207	79	62.0
5. Data processing equipment repairers	50	78	28	56.2
6. Electrical and electronics engineers	390	597	206	52.8
7. Electrical and electronic technicians	404	607	202	50.7
8. Computer operators	241	353	111	46.1
9. Peripheral EDP equipment operators	70	102	32	45.0
10. Travel agents	72	103	32	43.9

What these numbers do not reflect — and what is most important about employment opportunities in the future — is the changed content and character of the jobs. Moreover, they are unable to reflect brand new employment opportunities spawned by new technologies, new processes, and new products and services. They simply indicate that there will be increases in needs relating to computers, electronics, services, and health care, which we already know.

Consider the "secretary" job, for example. If there is any job that will undergo profound change, it is that of the traditional secretary. There is probably no other occupation that better reflects the "old" ideas of business, work, career and social status than the loyal secretary. A woman, of course, loyally doing the boss's bidding, protecting him from those unqualified to bother him, taking shorthand, and getting coffee.

Between 1987 and 2007 the entire concept of "secretary" will disappear. Information technologies, managerial and organizational changes, and alterations in the symbols of power and prestige make this a job of rapidly decreased relevance. There may be individuals who act as key information managers for a team or group, but their work will be driven by the knowledge and use of computers, databases, and other forms of electronic and video communication resources. Competitive and social shifts will help eliminate the "personal assistant/secretary" as an acceptable symbol of organizational prestige and power.

Needs projections for three million secretaries in 1995 tells us little of real value when we attempt to understand and prepare for the future of work. Looking at the other jobs on these lists, the same elements of change and alteration in task, responsibility and potential for growth exist.

The high-tech jobs

Employment opportunities in the "high-tech" industries have captured the imagination of most who do projections regarding future employment or their local economic development. The computer and related industries represent the largest manufacturing sector today with more than 2.6 million employees in 1986. Gains of more than one million more jobs are expected by 1995.

Defining "high-tech" as it relates to work in the decades ahead, however, presents a real problem. There are now robots employed in underwear factories to say nothing of the extraordinary automation occurring on automobile assembly lines. "High-tech" is becoming a relatively useless term as all work becomes more closely integrated with the emerging technologies.

For the moment, however, high-tech means computers, software, robots, telecommunications, bio-engineering, lasers and the like. Unfortunately, there is a good deal of mistaken impression regarding worklife in these industries. In the computer industry, 63 percent of those employed are paid at the bottom third of the wage scale, with only 28 percent in the upper third. That makes it a much lower paying industry than the average for all manufacturing. Expected to grow through the 1980s at 30 percent a year, growth projections had slipped by 1986 to under 10 percent. Coupled with rapid and dramatic changes in technology and products, employment security in this industry is as tenuous as anywhere else.

Through the first half of the 1980s, the best employment conditions existed in the defense industry. From 1980 to 1986 the Defense budget soared to more than $312 billion, creating 700,000 jobs. Congressional studies estimate that each $1 billion in defense contracting creates 25,000 jobs. The $150 billion contracted in 1986, then, supported 3.75 million jobs. In addition, there has been an increase in Department of Defense employment of more than 95,000 to a total of 990,000. Add military members, and researchers at universities conducting defense-related research and it becomes clear how much of America's energies and talent in the workplace are directed toward military and defense purposes. ***Changes in the policies regarding military spending will, therefore, have a direct bearing on employment opportunities for large numbers of Americans. Because so many Amercans are dependent upon military and defense spending for their employment, however, changing the policies may be difficult.***

Another aspect of the fascination with high-tech and defense contractor employment rests with the descriptions of the jobs. A quick review of these, in fact, may give us an idea of what the help-wanted ads will look like in the future:

Help Wanted

We place a premium on innovative thinkers — individuals whose ingenuity creates new possibilities in the world of high technology: Undersea Surveillance, Artificial Intelligence, and Knowledge Engineering. Send resume.

The telecommunications industry is undergoing a revolution! We need people qualified in Fiber Optic Technology, Electronic Defense Design, and Analog Design. Resume, samples of work required.

We're looking for qualified Space Program Engineers in Optics, Pointing and Control, and Space Telescope Software Development.

We're masterminding new technologies in space and defense systems. Our team needs Venus Radar Mappers, Space Station Experts and Manned Maneuvering Unit Engineers. Send resume, references.

New entrants

That the nature of work and the workforce are changing quickly is reinforced by the decline in the number and character of new entrants into the workforce over the next decade. Already, firms in some regions of the country are being forced to alter traditional practices of hiring and compensating new employees because the shortages are so severe.

It is not the decline in numbers that matters as much as the capabilities and expectations of the new entrants. Indeed, "entry-level" itself carries some basic ideas about worklife that are not necessarily appropriate any longer. Entry is supposedly onto the the first rung of the organizational ladder that constitutes a "career." In this traditional model, the employee, once hired, can progress up the ladder, one rung at a time, as he or she gets older, gains experience, and demonstrates the requisite work habits and loyalties.

For many service industries ranging from financial services and retail sales to fast food operations, entry-level has been a revolving door for teenagers hired at minimum wage to perform very basic tasks. There were few, if any, benefits, and the expectation was that any teenager was as good as any other and that there were plenty to draw from. They were processed through the organization like so many parts in an assembly line. With highly engineered tasks and close supervision the organization obtained what it needed at the lowest possible costs.

As shown in the following table, the number of 16- to 24-year olds is declining rapidly. By 1995, there will be 4.3 million fewer 18- to 21-year-olds than in 1980, just as the service industries expect to be needing them most. Moreover, while 10 percent of the 1980 new entrants were minorities, they will represent 25 percent in 1995. By 2000, it is anticipated that 80 percent of the new entrants will be minorities, women or immigrants.

This can be approached as a problem or an opportunity. The problem is obvious, the opportunity is exciting. It is clearly in our economic interest to address the educational needs of the minority population as a pragmatic business matter, moving it from a social issue to an economic one. This shift can create new and enthusiastic partners from all walks of society who may have found it difficult to understand each other's needs in the past but who now share a common need — the realization of full equity throughout the population regarding education and training.

People Aged 16-24	(Millions)
1981	25.0
1982	24.5
1983	24.2
1984	24.0
1985	23.4
1986	22.9
1991	21.0
1995	20.0

The shortage is already affecting the practices of fast food chains in those parts of the country where unemployment is low. Minimum wage is the first to go and efforts to maintain a full contingent of workers has become a full-time job. In Atlanta, part-time workers are being offered $5.50 to $6 an hour and to maintain them raises are larger and more frequent than has been traditional. Burger King is offering scholarships enabling employees to earn $200 every three months to a total of $2,000 for post-secondary education. In doing so, they have reported a decrease in turnover of 250 percent. Domino's Pizza has recently broken new ground by launching national TV recruiting ads.

There are dozens of examples of successful efforts to find, train and keep employees from among "disadvantaged" groups and from among the elderly. Handicapped workers have proven to be very good employees, as have senior citizens. Other employers are busing employees from inner-city locations to suburban locations.

What is important for employers about this is the emerging realization that they now must take all employees — even entry-level workers — seriously. They must work harder to recruit them, to keep them and to train them to be productive members of their organizations.

Women

There has been no greater change in the composition and character of the work force recently than the rapid increase in the number of working women. From a tradition of women as homemakers (that is, doing all the heavy work at home) or as non-professional workers, they now constitute approximately half the people at work (52 million). Of these, 24 percent are managers or professionals. Over the next decade, 67 percent of the new entrants into the work force will be at work by 1995.

As members of the work force, women have made some progress in terms of equity with their male counterparts, but the discrimination issue remains. Women are still concentrated at the lower ends of the salary scale and are typed into "women's jobs" as shown in the following table.

Profession	Percent Female
Secretary	99%
Nurse	96%
Librarian	87%
School Teacher	74%
Retail Sales	69%
Computer Scientist	28%
Lawyer	20%
Doctor	18%

Within major corporations and other institutions, women are still in the lower echelons. While they constituted over 60 percent of all white-collar workers in 1986 according to the Administrative Management Society, they still only represented 10 percent of those classified as managers and held only two percent of top-level executive positions.

Throughout the private sector there are extreme variations in female managers. According to the *Wall Street Journal* in March 1986, women accounted for 57 percent of the employees at American Express and 37 percent of the management. They represented only 19 percent of the employees at General Motors and 8 percent of the management group. At General Electric, of the 4,000 employees eligible for bonuses, only 2 percent were women and at IBM, there were only 500 women among the top 6,700 managers.

WOMEN IN CORPORATE AMERICA —1986

Company	% Women	% Management
American Express	57	37
Bank of America	72	64
Chemical Bank	57	34
DuPont	22	7
Exxon	27	8
GM	19	8
UAL	39	25
GE	26	6
IBM	28	16
Johnson & Johnson	47	18
Procter & Gamble	28	17
Prudential	53	32
Marriott	51	32
Sears	55	36
McDonald's	57	46
ABC	43	36
Time, Inc.	54	46

Despite of their recent activism and traditional volunteer efforts on behalf of their communities, progress for women along the political front has also been slow. At the state level, only 16 percent of the legislators are women ranging from highs of 33 percent in New Hampshire and 26 percent in Vermont to lows of 2.3 percent in Mississippi and 4.8 percent in Louisiana.

Recently, however, women have been making significant progress and have actually fared better than men in the workplace. Between 1980 and 1985, for example, employment rates for women grew at an average of 2.4 percent a year while men crawled along at less than 1 percent. More importantly, women saw their incomes rise at an average rate of 5.6 percent a year over the same period, while men suffered a decline equal to negative .7 percent a year. In 26 million two income families, there was an 8 percent income gain for women in 1985 and zero gain for the men. While these gains do not make up for the overall decline in real earnings over the past decade for the work force as a whole, they do reflect a major change.

Perhaps because of the continued resistance to women at the higher levels of many organizations, women are emerging as active and successful entrepreneurs and small business owners. From 1974 to 1984, there was a 74 percent increase in the number of self-employed women, while the increase for men was 24 percent. Women also own three-and-one-quarter million small businesses that generate more than $100 billion in revenues each year, and they accounted for 35 percent of all new business start-ups in 1985. In a recent listing by *Savvy* magazine of the top 60 women-run businesses, Estee Lauder topped the group at $1.2 billion in revenues, and the smallest of the 60 did $20 million in sales.

The character of the new economy is one that actually may favor women instead of men. The challenges and the requirements of work are no longer based on physical strength but on ideas, commitment, energy and service. It is also an increasingly non-linear environment where a pattern of education, work, temporary leaves, education, work, etc., will be the rule rather than the exception. Under these circumstances, pregnancy and parental leave will not appear unusual as all employees have a less rigid, less permanent relationship with their employers.

What will be even more interesting over the next decade is the inevitable "turning-of-the-tables" as women become a more dominant force in our society. They already are excelling in the top echelons of graduate schools in business and law, and are breaking into the management ranks in many of the newer, more progressive firms and industries. They are among our more successful entrepreneurs and small business managers, and also continue to control more than their proportionate share of private capital as they outlive men. In spite of facing tougher odds than their male counterparts, women are doing all this through sheer determination and the help of increasingly potent networks.

It will also end up to their advantage that women have been relegated to the fringes of our schools, clubs and professions. Why? They will enter the Eighties and Nineties without having been as deeply influenced by the assumptions and practices that determined success in the past. Not only that, they bring to their work the excitement and energy of those who have been waiting on the sidelines for a chance to play. Doing well means more to them because they have more to prove.

The characteristics needed in today's environment are those that embody the entrepreneur: drive, innovation, energy and a special commitment to seeing something through to its maturity. Abilities to work cooperatively with other people and organizations are also needed. ***Men are accustomed to the business environment as a battlefield that honors the attributes and skills of warfare. Women, more than men, bring to the workplace a higher level of skills in the cooperative, supportive and nurturing aspects of human interaction, the very skills top executives now declare as necessary to compete.***

While there are those who dismiss this discussion as "sexist," and while there are still men who would like to believe they remain inherently superior to women, this argument is intended simply as a description of an exciting period characterized, in part, by an important influx of energy, enthusiasm and vital skills into the workplace.

Part-time May be the Rule

The new worklife dynamics will cause individuals to be employed on terms other than permanent. Already a great number of Americans (estimated to be 25 percent of the work force in 1986) are working in a part-time, temporary, or other non-permanent situation. Part-time employees represent approximately one of five service employees and one of three in retailing. Temporary agencies that represented 350,000 workers in 1978 had nearly 800,000 in 1987, and constitute a $6.5 billion industry growing at approximately 10 percent a year.

Employees are even being leased. Leasing firms essentially become independent, contract personnel offices that assume the administrative responsibilities of employment. They hire individuals who then are leased to an employer, and the leasing company handles all the accounting, tax, benefit administration and payroll tasks. By 1986, this new concept was rapidly spreading in California and Florida, where there are now more than 200 employee leasing companies. Nationwide, they employ 60,000 employees and have a payroll exceeding $2 billion.

The traditional temporary was a secretary or receptionist. Today, however, the fastest growing temporary agencies are those representing professionals. These firms provide lawyers, accountants, engineers, nurses and software programmers and are growing at the rate of 300 percent to 500 percent a year.

The picture broadens when we consider who is hiring or leasing these temporaries. Hospital Corporation of America, for example, plans to staff a 40-bed psychiatric hospital with leased employees. Apple Computer uses temporaries to fill 5 percent to 10 percent of its jobs. Motorola has already institutionalized three tiers of employees according to contracts, where those with more than 10 years of service (30 percent) are guaranteed a job, 40 percent are regular employees with less than 10 years of service but have no guarantees, and 30 percent have six-month contracts that Motorola can terminate on 24 hours notice. At Chrysler, it is estimated that 70 percent of the value of its automobiles is subcontracted to other firms.

These new arrangements obviously are being forced by an environment that is increasingly unpredictible and in which there is an ongoing effort to reduce overhead and stimulate productivity. There are questions as to whether these cures to overpriced, permanent, inflexible jobs are worse than the disease. The answer will depend on how the nation handles the change. ***If it turns out that the 25 percent who are not "permanent" employees are perceived and treated as second-class employees, that is the way they will behave and perform and the quality and productivity of our economy will suffer.***

It could be that these new arrangements reflect a natural and effective response to the changing environment and represent the model of worklife in the future. They encourage higher levels of independence and flexibility both for individuals and for employers. The relationship between employer and employee can be made less ambiguous and can be related directly to particular tasks, projects or opportunities without either placing unrealistic longer-term commitments on the other.

Summary

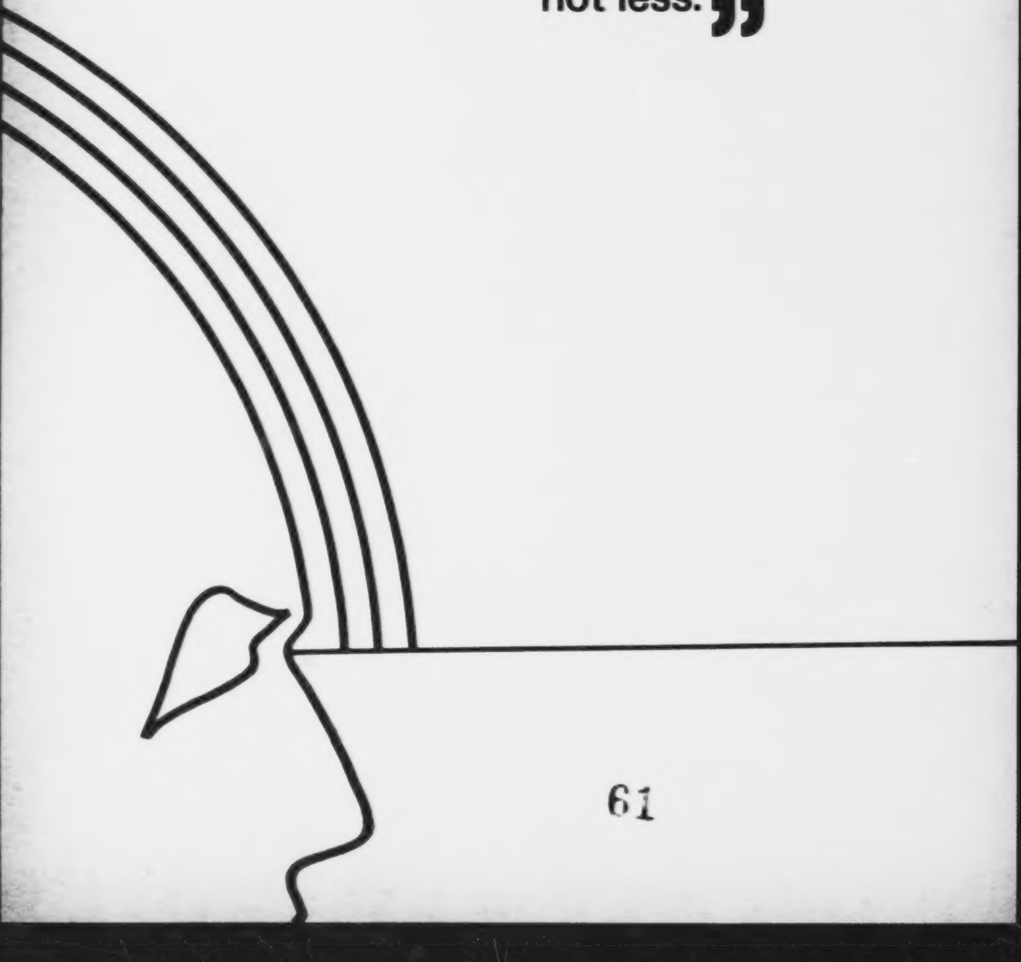
The most important challenge we face as individuals is becoming comfortable with an economy and worklives that are in a continuing state of flux as a result of major economic and institutional restructuring. Where we have come to expect consistency and predictability, we will find the opposite. Where there have been rewards from seniority, conformity and educational degrees, there will be insecurity.

Finally, we must recognize the urgency of the challenge that America faces. Our economic strength has been greatly eroded over the past 10 to 15 years and the leadership and vision needed to stimulate a serious national effort to move forward has yet to emerge. Enough people in enough communities representing enough industries and professions have been shocked by one form of economic crisis or another over this period to form a solid support base for a sincere effort to grapple with the challenges of this new economy and to begin making the changes that are needed.

It is toward the 21st century that our attention must be directed if we are to succeed, however. It is there that our opportunities lie, not in the past. Exciting advances in technology, new signs of entrepreneurship and innovation, and the natural will to succeed can create higher standards of living for us all. Refusal to respond to the challenges and pressures the inevitable changes bring, however, can only lead to disappointment.

CHAPTER 4

"The high-tech ERA makes people more important, not less."



CHAPTER 4

Technology: New Tools, New Potential

Nothing is more fundamental to the future of work and careers than the computer. ***Like the printing press, electric motor, internal combustion engine and the telegraph, the computer is causing a basic redefinition of society.***

Many of the observations in this book rest on the pervasive influence of computers on our lives. Those who do not become personally involved with this new tool are making a major mistake. It is difficult to fully appreciate or understand the excitement of those who use computers by reading or listening. Computers must be experienced to be understood.

The computer is simply a tool, an invention that enables people to accomplish tasks more efficiently and effectively than was possible before. Human progress has always been measured by the availability of tools. From the wheel to the jet plane, the translation of knowledge and experience into a tool has made progress possible.

Today, successful competition in the global economy requires that firms and individuals avail themselves of the best possible tools. It may be that the United States is slipping because it has failed to fully utilize the newest of tools and is attempting to compete with archaic tools. It is akin to agreeing to race a Ferrari against a Model T Ford.

The future success of both individuals and organizations will depend on their effective application of the newly available tools. This is particularly true today because computers allow revolutionary changes in the ability to accomplish things. ***For the first time, man has created a tool that expands the capacity of the mind.***

All prior tools have contributed to human progress by easing and simplifying physical tasks. They allowed extraordinary increases in the ability to cut, stamp, roll, pound, move, press and otherwise beat materials into submission, creating products that help raise the standard of living. These tools and the engines that drove them were the essence of the industrial era, shaping our ideas about work and the society in general.

Previously, a person working a press in an automotive factory knew nothing about the tools of the plumber. A doctor had little interest in the skills and tools of the architect. Musicians and artists were involved with tools that had nothing in common with the tools used by a steelworker.

The computer has changed all that. It is a tool that stimulates, assists and expands the creative process rather than a specific physical chore. At its core, the computer is a powerful and adaptable "slave" that will assist in any task. It works as willingly and as well for a doctor as for a mechanic. The computer doesn't care what it works on. It cares and assists in how things can be done instead of what can be done.

Magic

To appreciate the power and potential of this new tool requires some understanding of how it works. While understanding how various forms of data are translated into bits and bytes transmitted in nano- and pico-seconds can be useful, for most it will remain a mystery. ***My own detailed and passionate search to gain a full understanding of computers has brought me to the simple conclusion that they are "magic!"***

This apparently childish view of computers represents the most useful approach when assessing what they can accomplish. The science and the technology associated with their inner workings and the results of their internal actions is exciting and is still in its infancy. Those who have mastered the logic and the information needed to work with the technology itself are to be admired. In their application, however, most of us must accept the power of the "magic." Attempting to grasp — logically — the simplest of descriptions of what computers can do will only lead to frustrations of the highest order.

For example, even before the recent breakthroughs in superconductivity that promise to provide another quantum leap in the speed and efficiency of computers, a standard high-speed mainframe computer can operate at 100 MIPS — that's 100 million instructions per second. That means that two of these computers, operating simultaneously for one day, can do as many mathematical calculations as all mankind accomplished from the beginning of time until 1970. If that is not magic, what is?

With recent breakthroughs in "compact disk" technology, there will soon be entire libraries on a single 3 1/4-inch disk. Already, new compact disk storage technologies allow the 20 volume, nine million word American Academic Encyclopedia to be stored on 20 percent of the space of a single 4.72-inch disk. More dramatically, a disk six-feet long and six-feet wide can hold all the words ever printed. There are also disks that contain video that can be integrated into text and graphics presentations. What is possible through the combined use of computers, lasers, video and telecommunications technologies has no perceivable limit in terms of the storage, handling and transmission of information of any type.

As mentioned in Chapter 2, the rapid diffusion of these capabilities is initiating a true revolution in society and in the workplace. The price of a basic computer is dropping rapidly, approaching the point where nearly everyone will be able to afford one. For more than two decades the average price of computing has been dropping at the rate of 30 percent to 40 percent a year. As the popular analogy goes, at that rate a limousine that cost $7,600 in 1957 would cost three cents in 1987. Just as was true with calculators a decade ago, computers will drop so far in price as to be almost free. For as far ahead as we can see, the firm prediction about computers is that they will be smaller, faster, cheaper.

Computers will be everywhere. As a universally useful tool, we have barely scratched the surface of possibility. Musicians, engineers, politicians, artists, lawyers, teachers, plumbers, and doctors all will use the tool to satisfy their own needs. Data, information, graphics, video, voice, music will be given new forms.

Information equals power

The phenomenon of computers and computer-related technologies is causing major impacts on work and throughout society in general. It is stimulating and is supporting a revolution because it democratizes access to, and control over, information. Existing arrangements and rules about who can or should have access to information are not simply mechanisms of information management but rather reflect power relationships within organizations and in the marketplace.

Changing the rules of access to information changes the organization itself. It means that those at lower levels suddenly have the same information as those at higher levels. The power of knowing something that others do not is disappearing and is being replaced by the power of being able to do something creative, innovative or useful with the information — regardless of the age, credentials, position or economic status of the user.

This is not simply an issue of information access inside the organization. It is an issue of information access throughout society. With electronic access to databases that contain information about essentially everything printed, we are not limited to the information in our organization, library, community, industry or country. By asking the right questions, detailed information about any market, product, competitor or material can be obtained.

Interesting things occur as the ability to access and manipulate information grows in importance. Perhaps the first major job affected is the secretary's. Over time, they have progressed from the dictating machine to the typewriter to the word processor. Among the first to use computers within the organization, they will find themselves in a powerful position. Their experience with information management qualifies them to act as primary interface between a group of managers and the internal information system. Not only do they understand the filing system, they probably understand the information within the expanded electronic version, as well as the tools available to access that information.

As long as managers resist using the new tools around them, they grant the secretary a position of greater power than they realize. With this power, the secretary will no longer remain satisfied as a second-class organizational citizen. As a result, a whole new set of relationships will evolve, with the secretarial function becoming more of a professional information management occupation than a personal attendant.

Managers who wish to succeed, however, are discovering that they can be far more productive with these new tools than through a system where aides process basic information. With electronic mail systems, a memo can be reviewed in moments — worldwide. ***The tedious process of dictation or stenography, and typing, and retyping, and copying, and mailing is no longer needed. Typed once in the office — or at home or at the beach — a simple stroke of a key can transmit the information anywhere almost instantaneously.***

Managers will learn the new technology because they need it if they are to be effective. This will drastically reduce the numbers of "secretaries" throughout the work force. The projections that show massive increases in secretarial positions are an extrapolation of needs based on existing behaviors and arrangements. If such increases do occur, it will be because we have not adapted the new tools to our use. Instead, a broad spectrum of information management jobs, from the newly created Chief Information Officer to specialists in internal and external data bases, computer-graphics experts, and desktop publishing editors, will emerge.

Interactivity

The computer will soon be a tool that talks to us, eliminating much of the need for keyboarding, and it will be smart as progress continues in artificial intelligence and expert systems. Through these evolutionary changes, the computer will become a more adept assistant, able to handle most of the repetitive or routine tasks of communication, research and information-handling. With an ability to follow rules of logic or relationships, it will learn where information is stored or is most likely to be stored. It will be able to ask questions of procedure or decision-making since it can remember everything it has been told about any particular process.

Used currently for many diagnostic activities, expert systems reduce the time required to find information and can ensure that all important aspects of an analysis have been covered. And they can do this long-distance, 24 hours a day and with anyone who wants to know.

In performing their magic, all that matters is the clarity of the question and the persistence of the user. The computer cares about the substance of the communication. While the old axiom of garbage in/garbage out remains eternally true, so does quality in/quality out.

The most profound impact of the new tools will come from the shift in the nature of the involvement with the tools themselves. The relationships between producer and consumer, teacher and student and employer and employee historically has been dominated by one-way flows of information. Driven by the superior knowledge and information of the organization, the individual has been a passive participant. Whether delivered in print, over the phone, in person, or by television, individuals have been recipients of information. In this case, the power of the individual was exercised only through the formation of representative bodies and some measure of choice between providers.

With the new technologies, individuals experience powerful interaction as they determine the nature and direction of the information exchange. The order, the form and the reasons behind the receipt of information are increasingly a matter of individual determination.

This creates a new dynamic to communications. In an interactive situation, when the same basic information is available online, each user can retrieve it, arrange it and examine it from his or her perspective and reach independent conclusions.

Once accustomed to this control over information and data, individuals will become increasingly dissatisfied with any circumstance where they receive information presented in linear, preformatted form with no opportunity to question, rearrange and query. Adherence to the older approach sends two important messages to the audience: 1) that the organization has not yet caught on to the new realities of information or is trying to hide something; and 2) that the audience is not perceived to be intelligent or experienced enough to understand the information themselves and need someone to interpret it.

Off-site Employment

One of the least sensible holdovers from previous eras is commuting. ***Does it really make sense for us to leap into some form of expensive transportation between 6 a.m. and 8 a.m. so that we can all waste valuable energy, resources and time attempting to get to our jobs?*** Across the country the stories and experiences of grid-lock proliferate. Tens of millions of hours are spent each day commuting from homes to expensive office space in some congested metropolitan area.

The evolving technological alternative is telecommuting. The term itself reveals how wedded we are to the idea that to work one must commute, that work is still something accomplished primarily through the presence of individuals in a particular place at a particular time.

As more and more of the tasks to be performed are information processing tasks, as the world becomes increasingly integrated, as technology allows electronic transfers of information to occur more smoothly and efficiently and as more and more of the tasks associated with agriculture and manufacturing are turned over to intelligent machinery, the value of assembling masses of people in one place at the same time makes less and less sense.

It has been estimated that the cost of providing office space for a single employee costs between $4,000 and 6,000 per year. In cities such as New York, Tokyo, and London, it is far more. With growing pressure for any cost reductions that can make our firms and our economy more competitive, the mental resistance to telecommuting finally may be overcome.

Predictions say that 10 percent to 30 percent of the work force will be off-site workers in the year 2000. As might be expected, these are not only guesses, but they miss the real point.

What is important about worklife in the future is that it will be conducted through intelligent use of computers and telecommunications. Work will be performed by people separated by great distances and at irregular times. Control over the time and place in which work is performed will shift to the individual. What matters more than the physical arrangements of employees is their performance.

Telecommuting will allow great numbers of people to work at home, but it is not a situation where they will always work at home. At home, in the mountains, on the beach, from a car or in an airplane, there will be an electronic connection that enables continuous work to be performed.

Many organizations now support some level of telecommuting. However, there is general resistance because it suggests a major violation of the rules of organization and management. If people are performing their tasks at home they cannot be seen. Who knows or can control what they are doing? There is a powerful sense of security associated with the ability to see employees at their desks or work stations.

In fact, the time spent at a place of work has nothing to do with the quantity or the quality of the work performed. It is easy for a person to be at a desk or workstation but mentally be on a beach in Barbados. ***If the employee is present and doesn't meet expectations of performance, the manager can blame the employee. If the manager cannot see the employee, he or she must be responsible for results — not attendance — and that is a much tougher responsibility to fulfill.***

There is a more subtle and more dramatic implication to telecommuting within the organization, however. Driven to pay telecommuters for the results of their work, there will be the nagging fear that employees have discovered a way to accomplish assignments in one hour a day. This changes the practice of valuing employee contributions from time present in the workplace to results of effort. It gives new freedom to employees who can invent their own processes to produce the desired results with less expended time or effort.

The new management challenge will be to seek the optimum method of accomplishing desired results and managing to achieve these, rather than monitoring the particular motions, movements and behaviors of set numbers of people.

We will see higher proportions of the work force engaged in some form of telecommuting because of two external factors. First, the nation has a major infrastructure problem. The highways, bridges, rail systems, sewer and water systems, etc., built and designed to support a growing industrial economy during the Forties and Fifties are decaying and desperately need repair. The energy crisis and resulting ravaging of state and federal coffers came just as major public works programs were needed. Other than appropriating the billions of dollars needed to sustain an infrastructure to handle the expected traffic flows if current patterns of work and commuting are maintained, the only other option is to reduce and ration the flow of traffic. Flextime exists in some places to a marginal extent but now that the tools are available to enable people to work remotely, there will be ***pressure from both government and business for more telecommuting simply to alleviate some of the costs associated with commuter traffic problems.***

A shrinking planet

The second major impetus comes from the integration of the world into a single economy. The most appropriate time to conduct our businesses is becoming 24 hours a day as the markets, competitors, technologies, people and organizations important to our success become global. Already the financial industries are moving toward 24 hour operation, and others with major international ties are finding that to compete they cannot delay their communications six to eight hours while time zone differences are made up.

That this instant, continuous interconnection is competitively important is obvious in banking and securities trading. No major financial institution today can afford to sleep while the markets in Tokyo, London, Singapore and elsewhere go through their potentially volatile paces. The same is true for apparel companies and for software producers.

In the apparel market, firms such as Benneton have utilized the new tools to stagger the traditional fashion industry. What once was a slow process of creating a "look" or a "color" for one of the seasons has been reduced to a week. A sweater bearing the colors that research shows to be in demand one week can be on the shelves the next.

To accomplish this, sweaters are made with undyed materials and held in Hong Kong or Singapore awaiting shipment. Once the research results are in, they are electronically transmitted half-way around the globe, the dyes are mixed, the sweaters are dyed in a new garment dying process, and they are shipped via air freight to the retail outlets. Consumer demand, no matter how fickle, can be satisfied *now*, not next season.

The possibilities are endless. Architects can form teams of individuals from around the country or the globe to work jointly on a complicated project — electronically. The drawings need not be duplicated, mailed and worked on in six different places to be returned, compiled and sent out again. They can be worked on simultaneously from each location. A doctor, struggling with a difficult and rare disease, can have the latest information at his or her fingertips. A work group charged with finding a better material from which to produce a computer part can scan the world for research, suggestions, or materials.

The implications of the new tool also suggest higher numbers of temporaries or leased employees. Individuals or groups will be able to focus on their excellence in a particular area of work and make those skills available to potential users on a global basis. ***Able to connect electronically, prior limitations of distance, personal***

connections and even time disappear. There can be a greater concentration on the skills, experiences and education needed to excel and less on the internal politics of an organization. Employers will be able to employ the best at a particular task on a contract basis, rather than expend the time required to find, hire and train individuals to undertake the work internally.

The basic expectation is not that everyone will be working on contract or as temporaries, nor is the best strategy to have as few permanent employees as possible. What will occur is a continuous diversity in employment contracts and in the number of options for both employers and employees inside the organization.

Steel-Collar Workers

At one time, life was so simple that there were only two colors of collar to be concerned with: white and blue. Now there is a veritable rainbow as management literature now speaks of collars that are white, blue, pink and gold. ***The most important new collar, however, is the steel collar.*** It is this worker who will reshape the workplace more than all the other collars combined.

The robots are coming and soon will be everywhere. While the literature, movies and imaginations have talked of robots for a long time, their presence in large numbers has not yet happened. But over the next 20 years, they will enter the workplace at an accelerating pace. By 2005, we will be comfortable with robots both at home and in the workplace. Between now and then, however, they will bring confusion and displacement in the workplace as they arrive.

Robots — the steel-collar workers — are nothing more or less than computer-driven mechanical tools. They are smart machines with movable parts, guided in their actions by an integration of various information processing technologies with gears, wheels, screws, and levers. They combine the tools of the industrial era that expanded our physical capabilities with the tools of the information era that extend our mental and creative capabilities.

It would be fun if the robots were androids that looked, spoke and acted like humans. Unfortunately, the robots we will deal with today appear to be more like mechanical arms and fingers. Assigned to the mechanical, repetitive, boring, and dangerous tasks associated with manufacturing, these steel collar workers have begun to make their presence felt throughout the manufacturing world.

They are ideal employees for the tasks they have been assigned. They do not fight, form unions, take drugs, argue with their spouses or require large pensions. They don't take breaks or care if they are assigned to jobs that are dirty, dangerous, or just plain stupid. They are more than willing to work all night, exactly as told, and they don't take their employers to court if they are laid off or forced into early retirement.

Because of their characteristics and their capabilities, robots are ideal for assembly work. As feared, these machines are beginning to displace workers in many industries. As promised, robots can mean the difference between a competitive manufacturing operation and one that is failing.

The future of the manufacturing, distribution and material-handling industries is not, however, robots or artificial intelligence, or computers, or any one particular technology. The future is integration of human, computer and mechanical systems and capabilities into computer-integrated-manufacturing (CIM).

After nearly 20 years of basic neglect, the computer-integrated factory is now appearing in American manufacturing. The United States has made important breakthroughs in the design of robots over this 20-year period, but has done little in terms of their application while Japan went charging on ahead. Starting in 1980, American firms began to invest seriously in these new technologies. From 1980 through 1985, U.S. manufacturers increased their orders for automated systems from $9 billion to $18 billion. Current projections are for an increase to $36 billion by 1990. Led by the automotive industry, major commitments to robotics and computer-integrated-manufacturing have been made by Apple Computer, IBM, GM, Ford, Chrysler, Boeing, Deere, General Dynamics, Hughes Aircraft and other key U.S. manufacturers.

Expected in the heavy manufacturing industries and larger firms, robots are also spreading at a surprising rate throughout the manufacturing base. New models of robots are heralded as "lighter, stronger, faster and more intelligent," and are as likely to be found in a candy-making or underwear plant as in an automotive facility.

The issues associated with anticipating and preparing for the employment environment of the future certainly have been complicated by the emergence of these steel-collar workers. Not always appreciated and never invited to parties, these tireless workers are appearing throughout the workplace at an increasing pace. Robots and the broader concepts of CIM are no longer fantasy. The worklives of literally millions of Americans have already been affected. In fact, in 1986 the U.S. Department of Labor and the Office of Technology estimated that computer-based technology had already changed the jobs of 40 to 50 million workers and helped generate 10.4 million jobs between 1979 and 1986.

This new commitment to CIM and robotics is part of a larger change in manufacturing that has been underway for many years. Automation is already to the point where the direct labor costs in manufacturing represent only 10 percent to15 percent of the total cost. The shift away from labor in manufacturing is following the same path as agriculture. Where once the work of the majority of a nation's population was required to provide the food to survive, technological innovation created conditions under which it was less expensive to use machines than people for agricultural tasks. As that happened, human labor was displaced from the farms and was available for other productive activities.

Today, the same thing is occurring in manufacturing as machines — now intelligent machines — are becoming more economical for manufacturing tasks than human labor. Again, people are displaced and freed for other higher-level tasks. Manufacturing, like agriculture will continue. ***Automation and robotics do not mean the end of manufacturing; they mean it will be done differently.***

The essence of change in the theories, techniques and practices of manufacturing rests in the idea of "smart machines" and "smart factories." This is a far cry from prior images of factories and manufacturing that are dominated by noise, smoke, heat and powerful machinery.

The basic elements of the emerging manufacturing environment are:

- computer-aided manufacturing
- computer-aided design and engineering
- manufacturing resource planning
- computer-aided process planning

and, the full integration of all of these into computer-integrated-manufacturing (CIM). The design, installation and operation of this new type of manufacturing will reshape the manufacturing workplace and those that work within it.

The most important word in these high-tech phrases, however, is *aided*. ***The real challenge to the potential gains in productivity resides in the human and organizational element of the process, not the technology.***

A major study sponsored by the National Academy of Science, National Research Council, and the Manufacturing Studies Board reached precisely these conclusions in 1986. ("Toward a New Era in Manufacturing," National Academy Press, 1986) Commenting on the economic and competitive necessity of improving the processes and techniques of manufacturing in the United States, the report began with the following assessment:

"U.S. manufacturing has entered a new era, created by the convergence of three important trends:

- The rapid spread of manufacturing capabilities worldwide
- The emergence of advanced manufacturing techniques
- Growing evidence that appropriate changes in management and labor practices and organizational structures are needed to improve the competitiveness of U.S. manufacturing processes."

The report is based on the examination of the major advanced manufacturing experiments throughout the United States and abroad and suggests that successful implementation requires:

- A highly skilled, flexible, problem-solving, interacting and committed work force;
- A flexible, humane and innovative management organization with fewer levels and fewer job classifications;
- A high retention rate of well-trained workers;
- A strong partnership between management and labor unions, where labor unions represent the work force;

- Unprecedented efforts to communicate thoroughly to employees the competitive realities of the business, the conditions requiring advanced manufacturing technology (AMT) and the plans for implementing it;

- Employee participation in the implementation activities;

- Broad training that begins before assignment to the project.

Robert Kurtz, a former GE officer and chairman of the Manufacturing Studies Board, summarized the manufacturing environment in the United States in 1986 and the challenges that lie ahead in the introduction to the report:

> "Relatively few domestic manufacturers have devised effective responses to ensure success in the new manufacturing environment...Without changes in corporate culture, organizational structures and human resource management, new technologies will not produce the results needed for competitive manufacturing. ***These changes are far more difficult than plugging in a new machine — they require creative thinking, new attitudes and a willingness to embrace change. These factors represent the critical barriers to improved competitiveness."*** (emphasis added)

It is the importance of the integration of the human with the technical capabilities that American organizations seem to have overlooked. More characteristically, it is the attempt to simply insert a powerful new technology into the middle of a complex system designed to operate under totally different circumstances that has retarded manufacturing success in the United States. This area of manufacturing and organization, related to current economic history, prompted Peter Drucker to praise the Japanese for their "social innovations," that is, for the design of procedures that apply technology within the workplace to maximize the contributions of both man and machine.

A similar observation was made by Martin Kuilman, manufacturing vice president of N.V. Phillips (Netherlands), who said it was time to break down the traditional barriers between the people in production and in engineering and in product development. Kuilman argued for a continuous involvement of all the participants in the manufacturing process and further:

> "Technological and social innovation will have to go hand-in-hand. That is the main lesson to be learned from the Japanese.They built some of the world's most advanced factories not through technological superiority but through their effective organizations, by the commitment and motivation of all their people.
>
> The traditional efficiency-oriented manufacturing approach, characterized by a rigorous differentiation of tasks, is being replaced by a more flexible approach that stresses versatility in both the technology and the jobs on the factory floor.
>
> It's the people that make the difference in manufacturing, now and in the future. And if we utilize them with intelligence and compassion, we can succeed in keeping Western industries at least on a par with those of our competitors."

The mixed experiences that American firms have had with robotics reflect the potential and the difficulties. While some have realized that the integration of human resources with the new technologies is needed to succeed, it seems a lesson not easily learned.

Automation and robotics do not bring a quick fix to deeply ingrained problems of lagging productivity, inferior quality and low morale. To come to full-speed as an organization that blends the machinery with new forms of highly participatory organizational schemes takes at least five years of sustained and determined leadership and effort. In an environment geared toward the measurement of performance over the short term, it is only the strongest of leaders and organizations that will be able to complete such an overhaul, not just of the technology associated with manufacturing but of the entire managerial practice associated with it.

The battle, however, has been joined and there are numerous CIM and robotics projects underway across the country. One such effort is Buick City where robots are coming out of robots as part of GM's $40 billion commitment to build the "factory of the future." In early 1987, however, it is behind schedule and has problems. GM Chairman Roger Smith reported to GM stockholders that, "we set too ambitious a schedule — we have to go a little slower."

Observers of GM and the automation projects blame not the technology but management and its assumptions that technology alone would solve the problem. This case demonstrates, again, that productivity gains still depend most on people.

Chrysler, on the other hand, managed to open three highly automated plants between 1983 and 1987 and all opened on schedule. According to Chrysler officials, the key was extensive training of workers before the changes were actually introduced. Others attribute the success to Chrysler's smaller size and the urgency associated with the very dramatic brush the company had with bankruptcy.

In Chehalis, Washington, PPG is building a $30 million glass manufacturing plant that is expected to be 50 percent more productive than any previous factory. The level of computer integration is so complete that the operation of the plant is to be *paperless*. Major management shifts have accompanied the technological innovations and the plant manager will be responsible for sales as well as manufacturing. Employees are organized into teams with no foremen, and will be responsibile for determining how best to meet sales and production targets.

In College Station, Texas, Westinghouse is creating its version of the factory of the future and has already experienced major success. With a sophisticated network of robots and other computer-aided manufacturing tools, electronic components for radar are being produced with 10 percent of the work force and 50 percent of the total costs of traditional factories.

Westinghouse managers report their gains have not come so much from the technology as from the fact they have divided the work force into teams of eight to 12 people. The teams devise their own solutions to problems that arise and measure their individual and group performance on a daily basis. Pay raises are based on performance and on the successful completion of new skills training programs, not on seniority.

Changing to this new system was not easy. Excited by the technology and equipment and a restructured work force, too little attention was paid to the preparation and support of the employees during the first year. There was a 22 percent turnover in the plant as productivity performance and quality results were below expectations. This prompted closer attention to the recruiting process and improved training programs were installed. These efforts, plus everything that was learned over the initial three year experience with the new facility, brought productivity and quality results to new levels and reduced turnover to less than 4 percent.

Often perceived as the realm of industrial giants, the application of robotics and automated manufacturing techniques is rapidly spreading to the smaller firms. In this new era, there is no exclusivity in access to the newest information or knowledge and sheer size is not the prerequisite to success in manufacturing that many believe.

In 1987, more than 25 percent of those firms planning to buy robots have sales below $10 million. These are representatives of the 100,000 small job shops that form the backbone of American manufacturing and employ the bulk of blue collar workers, supplying 75 percent of all the machined parts used by larger manufacturers. Sales of robots and computer-related equipment to these smaller firms are growing at 35 percent a year while sales to the largest firms are growing at 19 percent and at 23 percent to mid-sized firms.

The smaller manufacturing, machine tool and metal working firms are important within the Japanese system as well. As a nation, however, Japan appears more conscious of the importance of these smaller firms and has been aggressive in supporting their advanced manufacturing efforts. They have, for example, created the Japan Robot Lease Co. Partially supported by the government, the organization not only leases robots to smaller firms on very favorable terms, but also provides training, information and technical assistance.

Whether large or small, however, automated manufacturing will succeed only when the workplace reflects the conditions, the beliefs and the behaviors necessary to blend the human resources with the technological tools. This requires a major departure from the traditional industrial or manufacturing models of organization and management.

The basic shifts relating to authority, rewards, status, etc., is summarized in the following table:

Organizational Element	**Traditional Practice**	**Advanced Manufacturing Technology**
AUTHORITY	Based on position	Based on knowledge
DECISION MAKING	Located close to the top	Located close to the action
EMPLOYEE CONTRIBUTIONS	Defined and limted by job classification	Expanded through training and skill development
INFORMATION	Tightly controlled by management	Widely, openly shared
REWARDS	Individual	Group, team
STATUS	Defined by parking, dining, other perks	Equalized amenities

As will be discussed throughout this book, it is clear that the overriding conceptual and behavioral characteristics needed to succeed in the workplace of the future are those of trust, openness, commitment and cooperation. While there has always been a tacit agreement with these noble ideals, the economic and technological realities make them the practical goals of management and organization.

Some of the remaining resistance comes from the simple fact that this level of automation causes displacement of white-collar workers. Managers and executives have long been accustomed to the realities associated with layoffs and displacement due to capital investments in new equipment — but only as it applies to blue-collar workers. In the good old days, the technological advancements simply meant the replacement of human labor in the field, factory, mine or mill with new machinery.

CIM and robotics and computers are changing the nature of manufacturing and of work and therefore require a restructuring of the organization itself. What is being improved upon by the new technologies this time is the processing of information. These improvements reduce the need for those who process information — middle management.

Bureaucracy becomes the largest unproductive expense in an information economy and organizations discover they can trim bureaucracy as the new technologies take hold.

As the relative quantity of people needed within a manufacturing environment decreases, the need for quality people increases. Moreover, the importance and the responsibility of each individual employee increase dramatically as each has a greater degree of control over some aspect of the operation. Each will be entrusted with equipment, systems and information of increasing value, and their performance will have greater direct impact on the total output than was true before.

Under these circumstances, the magnitude of the potential damage or loss of both human and material resources because of employee error, can be catastrophic. Chernobyl, Three Mile Island, Challenger and Bhopal are recent examples. More flexible systems producing higher value-added products require higher degrees of attention and care. Each individual and group within the entire process must be made to feel an important part of the entire effort.

The very characteristics of the newly integrated manufacturing systems that make new standards of quality and productivity possible are the same ones that make the system fragile. Without the enthusiastic, intelligent and responsible participation of everyone, these tightly integrated systems collapse. The potential dangers are well reflected in the new inventory control system borrowed from Japan known as "just in time" or "Kan Ban."

Inventory Control

Inventory control may seem a boring subject. In this case it is not. Here it represents the kind of innovation that speeds the manufacturing process, reduces waste, delivers customized products and improves productivity all at the same time. Simply stated, the premise of "just in time" is as follows:

> If we can design and operate a system in which every component, part or raw material arrives at the place in the manufacturing or assembly process where it is needed, just when it is needed, we will not have to carry any stockpiles or inventory. With no inventory, we will free capital for other investments, we will not need the buildings, systems or people currently assigned to the inventory management and

> control procedures. Further, if we link all our suppliers within an electronic communication system, we will be able to place orders, receive and pay invoices, design new parts, take bids, trace shipments without any paper or the investment previously tied up in the overhead associated with those tasks.

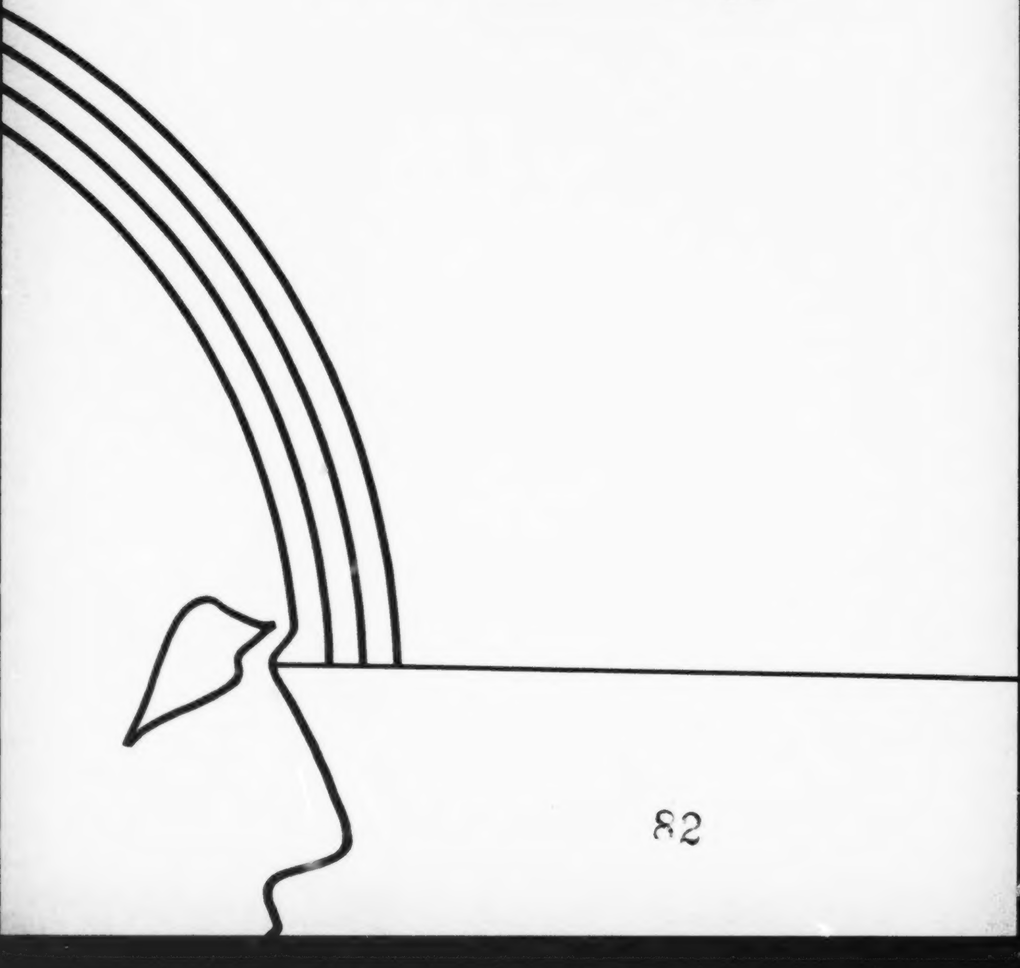
With current computer and telecommunication technologies, such systems can be designed and operated. The savings are significant and the result is a manufacturing system of great flexibility and responsiveness. To achieve the desired results, however, is not simply a matter of computers talking to each other or a software system able to process the information. The issue is again a human one.

In these systems, success requires the full and enthusiastic participation of everyone throughout a vast, dispersed system of suppliers, manufacturers, and customers. The system works because of the integrated flows of information and products. A failure or a refusal to participate anywhere within the system can shut it down. Only when *all* the players have decided to cooperate because they see it in their best interest to do so can such a system operate effectively.

The United States will find it difficult to take advantage of this new potential without new forms of management, organization and communication between and among firms and within the firm itself. ***Management and employees cannot pull this off if the frame of reference remains adversarial.*** An organization cannot participate productively if it is unwilling to share its information with suppliers, governments, customers and others in a cooperative manner where shared gains are of primary importance.

CHAPTER 5

"Japan should be measured in terms of lessons, not exports."



CHAPTER 5

Japan: A Major Influence on Our Future

Over the last decade, America has rapidly become more deeply integrated into the global economy. Imports and exports represent 25 percent of our GNP, compared to 16 percent in 1970. This is not simply a matter of foreign trade and a rash of imports, however. It extends into the entire structure of the economy and the workplace. Despite a long history of world dominance in manufacturing and investing, the tables are turning on the United States.

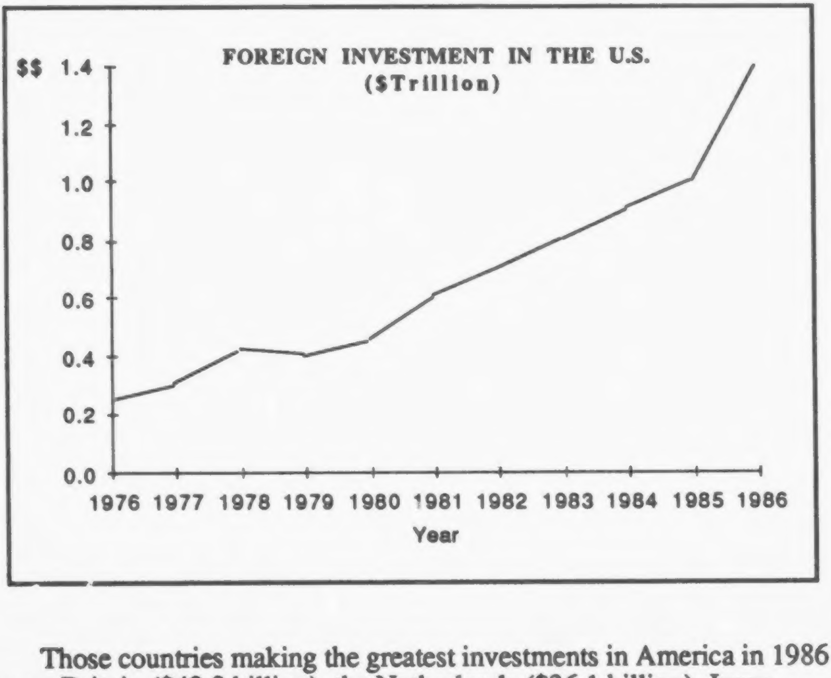
Foreign interests have purchased increasing numbers of companies and prime real estate and have entered into significant long-term joint ventures with American firms. The extent of this growing involvement in our economy is not broadly understood. The implications for Americans of the economic changes, management practices and political developments originating in Paris, Tokyo, Amsterdam, London and Toronto are more immediate and more relevant than most realize.

Foreigners own nearly $1.5 trillion of American assets. In 1985, more than 200 companies were acquired by foreign firms and in 1986, another 269 were purchased. These deals and the takeovers are just beginning to receive major attention in the United States, as they have grown larger in scale and as familiar American names have become foreign-owned corporations. For example:

- Allied Stores was bought by a Canadian company (Campeau) for $3.61 billion
- Unilever, a Dutch company, paid $3.1 billion for Chesebrough-Pond's

- News Corp. (Australia) bought seven Metromedia Inc. TV stations for $1.99 billion
- White Consolidated Industries was purchased for $742 million by Electrolux (Sweden)
- Sumitomo Bank (Japan) paid $500 million for 12.5 percent of Goldman Sachs
- Sir James Goldsmith (UK) bought 11.5 percent of Goodyear Tire and Rubber for $500 million

The following graph illustrates the growth of foreign investment in the United States which has risen from slightly more than $250 billion in 1976 to more than $1.4 trillion in 1987.



Those countries making the greatest investments in America in 1986 were Britain ($43.8 billion), the Netherlands ($36.1 billion), Japan ($19.1 billion), Canada ($16.7 billion) and West Germany ($14.4 billion).

In the future, the owners and managers of U.S. companies will be global in scope and American ideas and assumptions about work, trade and foreign policy have to be adjusted accordingly. This will be no easy task because this is a new experience for us. ***Americans are accustomed to the strategies, policies and considerations of making foreign investments themselves. We are not accustomed to establishing the policies and visions needed to effectively take advantage of foreign investment here.***

One specific development that reflects the blurring of traditional national boundaries and employment conditions is occurring on the Mexican-American border. There, "maquiladoras," Mexican plants on the American border, employ more than 260,000 workers. With growing investment by both American and Japanese firms, they are the second largest source of foreign earnings for Mexico, after oil, at $1.5 billion. Once relatively small plants, the average U.S. operation now has 350 employees, but the Japanese are making even larger commitments. Matsushita, for example, has a TV assembly plant in Tijuana that will eventually employ 1,400.

The economics associated with trade agreements, tax laws and employment costs have also spawned sister plants on the American side of the border. This is clouding the nationality all along the border and tying the economic well-being of both American and Mexican communities together. The area is becoming one that is neither American nor Mexican in a traditional sense, and is a clear reminder that the work force from which today's employers draw is increasingly global, and that all economies are becoming more integrated.

Working with and for Japanese Companies

So much has been written about Japan that there is a natural inclination to resist reading more. There are, however, compelling reasons to examine implications of the continued influence Japan has on our lives.

No foreign investor in the United States or participant in the global economy is more pivotal to the future than Japan. America and Japan are being driven closer together as both the governments and organizations of each country make arrangements that will best assist them in the global economy. While Japan is not yet the largest investor in this country, it is clearly the most important because of 1) the large trade deficit with them, 2) their apparent successes in management and organization, and 3) because they possess a mind set better attuned to the future than we have yet achieved.

A surprising number of readers will be employed by a Japanese firm — in the United States. Far more will be anxious about the continued competitive pressures the Japanese exert in the marketplace. Others will have Japanese firms and individuals as partners in one or more ventures. Consequently, there will be a broad range of ideas, feelings, knowledge and understanding about the Japanese throughout this country.

In 40 short years, Japan rose from the devastation of a world war and a reputation as a producer of cheap novelties to the most influential economy in the world. America has seen its dominance in the world market challenged and overcome by the Japanese in industry after industry over the past 20 years. This truly is a remarkable feat, and sometimes difficult to comprehend. Because it appears to some that the Japanese gains have come at the expense of the United States, there is frustration, anger and resistance to opportunities presented by the change.

Japan is dominating global markets in key industrial goods. Japan is making the key investments in other countries. It is opening manufacturing, distribution and financial centers around the world. To a large degree, this success is the result of direct and indirect assistance from the United States, and it has come from "learning" what America was doing so successfully. For decades, the Japanese have swarmed to the United States to learn, to observe and to study. Unashamedly taking pictures and asking questions, they learned their lessons well.

The sight of the Japanese groups prowling the cities and factories of America with cameras and tape recorders was viewed by Americans with amusement. Now, after nearly two decades of getting whipped in the marketplace, there is an effort to protect our manufacturers and economy from their "unfair practices."

It is more productive to increase the efforts to learn from the Japanese than to raise barriers to trade. Fortunately, real learning will continue to take place as more and more American firms and individual employees work with them. The Japanese already own wholly or in part 435 U.S. manufacturers, an increase of more than 200 since 1980. By 1990 there will be at least seven Japanese automobile assembly plants operating in the United States. This firsthand experience will teach Americans more than anything that could be gained through reading or an occasional visit to Japan.

Japan as Investor

Over the past several years, Japan has been shifting its strategy from an exporter of goods to the United States to an investor here. Cautious investments have been giving way to major new plant installations and buy-outs. Caused in part by the growing value of the yen, which makes Japanese imports more expensive and investments in the United States less expensive for Japan, Japanese firms have begun to invest more aggressively in the mid-Eighties, even before the trade barrier flap.

The total investment in manufacturing facilities is estimated at $20 billion and has tripled every year since 1980. There is a major Japanese presence in steel and automobiles, as nearly all our major companies in these industries are in partnership with a Japanese firm. Similar developments are beginning to occur in computer and telecommunication products.

The movement of the Japanese into U.S. owned facilities has been sudden. Until 1982, no automobiles were produced in the United States by Japanese firms. Today, more than 560,000 cars a year are produced by Toyota in Fremont, California, Honda in Marysville, Ohio, and Nissan in Smyrna, Tennessee. By 1990, it is expected that Japanese companies in the United States will be producing 1.6 million automobiles annually, about the same number currently imported from Japan.

Of the seven largest U.S. steelmakers, four have sold equity positions or formed joint ventures with Japanese firms. Nippon Kokan K.K. owns 50 percent of National Steel and is working hard to turn it around. To assist in that effort, National Steel received a $350 million loan at very favorable terms from Marubeni, one of Japan's largest trading companies.

The following quote from Yoshinari Yamashiro, President of Nippon Kokan K.K., provides important insights into the intentions of the Japanese investments and, perhaps, the broader global perspective of their business leaders:

> "We would like to see National Steel become a world class steel producer within five years. It will take time for both sides to get used to each other. But in the long run, it will prove to be a good marriage and will have a long and profitable life. ***Our philosophy for our U.S. activities from the beginning has been to try to blend the best of both cultures and business practices into a single smooth-running organization.*** By doing so, we will not only be successful in business but also deepen the mutual understanding between our two peoples and our two countries." (emphasis added)

Investments in the United States are not limited to heavy manufacturing where such investment is clearly needed. In October 1986, Fujitsu made a $225 milllion bid for 80 percent of Fairchild Semiconductor in the latest of a surge of large high-tech investment efforts. Sumitomo has purchased a division of Motorola that manufactures electron beam accellerators. NEC is seeking expanded investment in Honeywell's computer operations. Both Kawasaki Steel and Mitsubishi Metals have purchased silicon wafer manufacturers in Silicon Valley, and in late1986 there were rumors that Hitachi was interested in buying all or part of Motorola.

Toshiba is among the firms with a serious commitment to direct investments and partnerships in the United States. It is working with General Electric on an advance steam turbine for the coal-fired power generation plants of the future and has a joint venture with Westinghouse producing color display tubes in Horseheads, New York. Toshiba has other plants operating in Houston, Texas; Sunnyvale, California; and Lebanon, Tennessee.

The rationale for this involvement in the United States was described by Toshiba president Sugiichiro Watari as follows:

> "No single corporate player today holds all the pieces of the technology puzzle. The new technologies are so sophisticated that it takes many participants to finish the game. This has led to a natural expansion of technical tie-ups, joint research and other forms of international cooperation. And it will gather momentum as time goes on."

The manufacturers do not come alone. Japanese banks work hand-in-glove with their manufacturers and have also been expanding their presence in the United States. There are more than 90 Japanese banks in the United States and they have more than $300 billion in loans, bond purchases, guarantees and letters of credit to cities, states, universities, and businesses. Japan controls 8 percent of the $2 trillion American banking market and the percentage is growing rapidly.

Foreign Trade and Investments

The U.S./Japan relationship is best understood as a local issue. The rapid movement of Japanese investment into the United States has been encouraged to a large degree by business, government and other officials representing states and cities, not the federal government.

Since the late 1970s, the initiatives to establish new centers of technological excellence, to strengthen economies and to improve productivity have been launched and carried out at the state level. At the state and local level, there has been real concern about real employment opportunities for real people. In the absence of any national efforts, Americans have increasingly taken their futures into their own hands. Recruitment trips to Japan, Korea, Europe and elsewhere are being made by governors, university presidents and local business leaders. ***The real issue is local economic vitality in a global environment in order to ensure continuing employment opportunity. The story to be told is not of dollars invested, but of jobs created, both directly and indirectly.***

With every town or city that secures a letter of credit from a Japanese bank and with every mid-sized company that borrows from one, Japan's commitment to the United States and the importance of Japan to the communities involved grows. At the moment, the total investment is $20 billion. While this is less than the total investments of other countries, annual Japanese investments in the United States have been tripling every year since 1980. The Japanese Ministry of Industry and Trade has predicted an average annual increase of more than 15 percent a year through the year 2000. At that rate, their presence in the United States will be 10 times greater than it was during 1982 to 1983 and more than 840,000 jobs will have been created.

The debates regarding foreign trade policy will shift from Washington to the states where the true economic trade-offs have to be made. Policies that threaten the prospects of continued employment and investment by firms from other nations will be fought.

There are, for example, 36 Japanese plants in Tennesse, employing 8,000 people and representing an investment of more than $1 billion. During times when overall economic conditions in that part of the country have not been terrific, this becomes a major contribution to the state and its workers. The level of significance of the Japanese stake in Tennessee is so high that Governor Alexander has proclaimed a goal of "getting the Tennessee economy integrated with the Japanese economy." Statements such as this may dismay or confuse many, but Governor Alexander is not alone. His counterparts from Kentucky, New Jersey, Michigan, and most other states have aggresively sought similar ties and make regular trips abroad in search of them. Their missions are to improve the economies of their states and to create jobs in a global economy.

The Japanese are investing for the long haul. In Kentucky, where Toyota is making an $800 million investment, other Japanese firms are involved as well. Ohbayashi Corp. is the construction manager of local contractors building the plant. Tokai Bank and Bank of Tokyo have opened offices to provide needed financial services. Parts for the Toyotas will be supplied by Nippondenso from its Battle Creek, Michigan factory, by Aisin Seiki from an Indiana facility, and by Toyota Gosei from its plant in Perryville, Missouri. Another 10 to 12 automotive parts suppliers from Japan are expected to establish operations in the area. In total, there are more than 120 Japanese automotive parts production and distribution companies established in the United States and the number is growing rapidly.

In Michigan, the heart of the U.S. automotive industry, Ford has a unique $450 million joint venture with Mazda to produce 240,000 cars a year. Of these cars, 60 percent will bear the Ford emblem and 40 percent will bear the Mazda emblem. The ambitions and vision of Mazda as stated by its president Mr. Kenichi Yamamoto are:

> "We want to become part of the local economy as much as possible. ***We want to create a good, friendly environment in which management and labor can work together in harmony and be corporate citizens. We want to be trusted and loved by the community.*** We want the workers to look upon the plant as their plant and us as their company. If our workers feel pride in what they are doing it will rub off on the community and we will become the company of the community." (emphasis added)

In New Jersey, similar benefits are being derived from Japanese investments. Sharp has a $37 million corporate complex with 750 employees. More than 180 Japanese firms have invested $3 billion in New Jersey and employ more than 9,000 people in the state. State coffers are enriched by $65 million each year through the real estate and corporate taxes paid by these companies.

Experiencing the Difference

Those who work with and for the Japanese companies in this country will directly experience a new and different idea about work and the social contract between employee and employer. ***American facilities can achieve levels of productivity and quality of output matching that achieved by the parent company in Japan, destroying the old myth that the performance of Japanese firms is somehow related simply to their particular history and culture.***

The stories of these successes will be told in local newspapers, in local restaurants, in state legislatures and on the golf course. Among the experiences and the stories will be those concerning the Honda plant in Marysville, Ohio. They will describe a young work force with many women, starting to work at $10.50 an hour. Here, the employees wear white coveralls and are known to each other as associates. The managers have no enclosed offices, no reserved parking, and no executive dining rooms.

They will talk about NUMMI in California, which is a joint venture of General Motors and Nissan manufacturing Chevy Novas. There, nearly a quarter-of-a-million automobiles are produced each year by a work force of 2,500 in a plant previously closed by GM because of poor productivity and notoriously bad labor relations. The NUMMI plant takes 21 man-hours to produce the same automobile that takes 38 hours in other GM factories. Whereas the plant once had a 20 percent absentee rate and 5,000 unresolved grievances, under NUMMI management the absentee rate is 2 percent and there are only two unresolved grievances.

William Childs, general manager for human resources for NUMMI, declares the secret of the success there is that "the Japanese philosophy is to make people an important item, as opposed to the typical U.S. philosophy that workers are just an extension of the machines."

This emphasis on cooperative labor relations partly explains the improved productivity. The approach is designed to increase flexibility and reduce tasks by giving workers more control over their assignments. In a traditional American facility, there are more than 100 job classifications. In practice, this means that while some people are working hard to finish their jobs, others have nothing to do. Under the Japanese team system, everyone does several jobs, so the work is spread more evenly. The result is a company that is light on its feet, can shift production and retool quickly.

The Japanese approach to production, emphasizing flexible teams, just-in-time deliveries and attention to quality, demands extremely high employee loyalty, a sharp departure from the traditional adversarial relationship in most U.S. factories. They therefore try to maintain the kind of management culture that was popularized by Tom Peters and Bob Waterman in "In Search of Excellence" as management by walking around. ***Executives who really do believe that their employees are the keys to their success work among them and with them rather than at a distance. Honda president Irimajiri, for instance, has no office. He sits in the same room with a hundred other white-collar workers.***

There are many lessons to be learned from the Japanese experience. There are also some difficult questions that must be asked. Among the questions and issues already being debated:

1. Are the Japanese investments "screwdriver operations" designed to simply employ U.S. workers at the lowest levels while retaining the higher level activities in Japan?

2. Will U.S. managers become part of top management?

3. How will U.S. companies and unions respond?

It is most fascinating that much of the current debate in the United States sounds very much like the discussions and debates held 20 years ago in other countries as the United States presence grew within their borders. More revealing is the defensive stance that many American business leaders and elected officials are taking.

The most difficult lesson is that the Japanese approach to business, to management and to life in general reflects a different state of mind than most Americans are accustomed to. Their high levels of productivity and quality come from "kaizen," which means a continuous, natural search for better ways to do whatever one does.

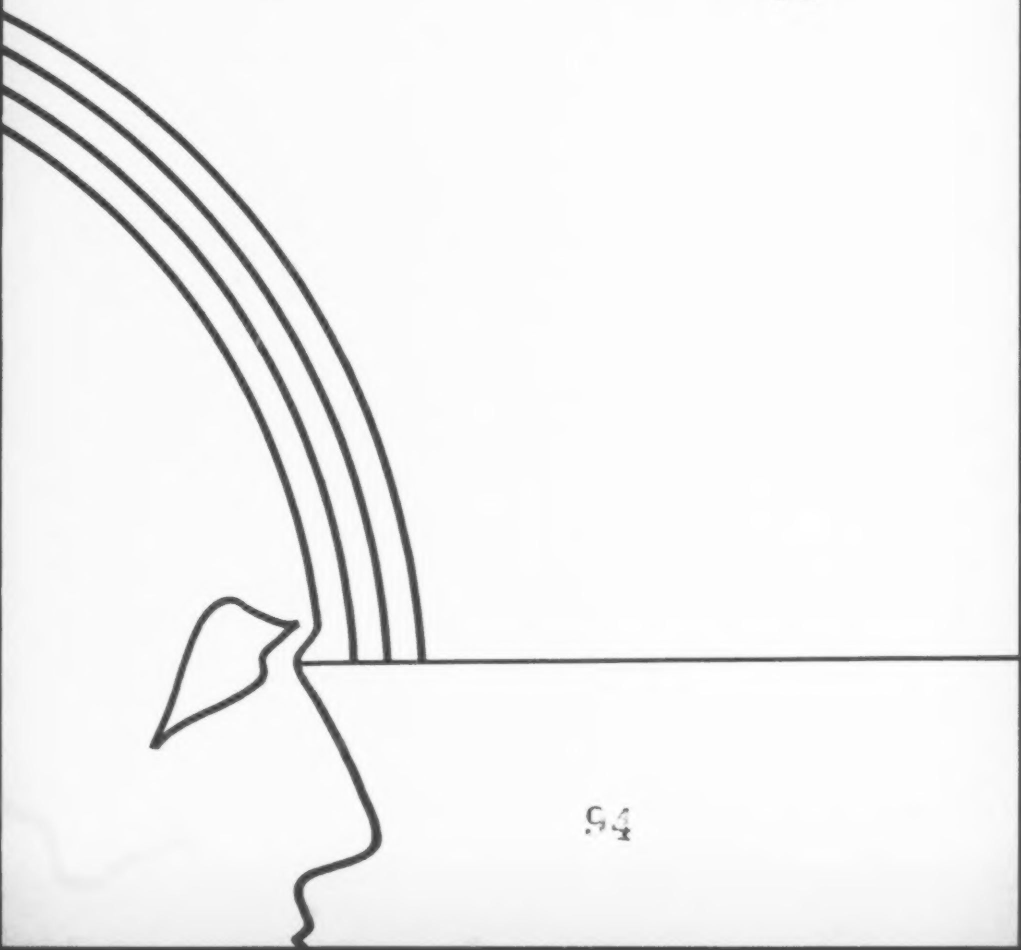
Listening to their business leaders, reading the numerous books and articles that report on their approaches, their philosophy and their priorities, ***the most prevalent themes are harmony, trust, cooperation, pride and love.*** While there are clearly cultural and philosophical roots to their perspectives on work and organization and management, that is not the issue.

The challenge and the opportunity for Americans is not to adopt the Japanese methods and techniques, but to examine the results of the basic assumption that the people in the organization are most important. When that is believed, whether the managers are Japanese, French or American, it matters little.

In an information-driven, global environment with rapidly changing markets and technologies, all organizations depend on the wit, energy and enthusiasm of everyone engaged in the overall effort to deliver a product or service. The Japanese are not perfect and need not be copied; but we must certainly learn as much as possible from them. Whatever else we might believe about economics, monetary policies, trade practices, etc., it is vital that the extraordinary accomplishments of the Japanese be acknowledged, celebrated and built upon.

CHAPTER 6

"Productivity, like excellence, is a state of mind."



CHAPTER 6

Productivity, Quality and Excellence: A State of Mind

All of the rhetoric, the analyses and the new techniques of management and organization arrive at the workplace with a single, simple objective: to improve productivity. It is only through the ability to produce needed goods and services at decreasing total cost that wealth is created. As productivity improves, resources that were previously needed to produce something are no longer needed for that purpose and become available for a new product or service.

By now, American managers must be tired of the call for increased productivity and higher levels of quality performance. After all, we have been there before, several times. One of the more important national efforts occurred in the early Seventies under the direction of the National Center for Productivity and Quality of Working Life. During that time, the best business, academic and labor minds examined American productivity performance and the reasons for its decline after nearly 40 years of sustained improvements. The center had the Vice President of the United States, the Secretaries of Commerce, Labor and the Treasury, as well as the presidents of major labor unions and large corporations on its board.

The overall results of this high-level attention were many reports, much testimony before Congress, and other meetings that pinpointed some of the problems. Much of the work emphasized concern with governmental interference in the mechanisms of business and enterprise. Too many rules, regulations and requirements from the alphabet soup of EPA, OSHA, DOE, FDA, CPSC, DOL, and others were hampering needed innovation and investment. Restrictive work rules within the industrial unions were also described as barriers to increased productivity, as were the general work habits of what was then described as the "me" generation.

Time has passed and the environment has changed. We have come far in removing overly burdensome federal regulation. The unions have been losing clout and have been making both work rule and compensation concessions. The "me" generation has matured into a more dependable group of employees (though recent headlines of graft, insider trading and mismanagement would argue otherwise). Unfortunately, our productivity performance has not yet made great leaps forward.

The call for improved productivity is being heard again. The whole quality issue is also here to stay. ***Higher levels of productivity cannot come at the expense of quality.*** We now *must* find a way of generating more output with fewer resources while improving the overall quality of the products and services we produce or resign ourselves to a standard of living that does not improve.

The challenge is clear. The answers are less so.

When reading of the complaints regarding our productivity and hearing the challenge for improvements, many managers will, justifiably, demand clarification of priorities before proceeding. After all, the emphasis of the last three years has been focused on a totally different thrust: innovation and entrepreneurship. The story has been that our managerial and organizational methods have been too rigid. We have been missing the new opportunities and holding on to dying products and markets too long.

Entrepreneurs and intrapreneurs are the new heroes!

There appears to be a direct contradiction in the simultaneous call for innovation, entrepreneurship, productivity, and quality improvement. How can we set people loose from tightly organized and defined systems to stimulate creativity and innovation and get more output of higher quality at the same time?

To move ahead with some degree of control over this situation requires that we redefine the basic terms. Productivity, for instance, must be carefully reviewed for its real meaning in today's environment. While this may appear unnecessary, it may be the key to the entire issue.

In its most basic and traditional form, productivity is a measure of output divided by input. Productivity, however, only has value as a relative term; that is, ***it is the change in productivity that is important from period to period.*** We make progress when the measure of output divided by input improves. So far, this describes a simple enough objective for obtaining productivity improvements: either increase output or reduce input and the ratio improves:

CURRENT		INCREASE OUTPUT	DECREASE INPUT
INPUT	$1,000	$1,000	**$950**
OUTPUT	$2,000	**$2,100**	$2,000
RATIO	2-0	2-1	2-1
IMPROVEMENT		.1 or 5%	.1 or 5%

The fun begins and the arguments get heated when you attempt to define the correct numbers to establish the output and the input. The literature is filled with deep economic, statistical and philosophical arguments presented by engineers, MBAs, economists and other experts who have tried to solve this measurement problem.

To illustrate the problem, we will produce the ubiquitous widget, which today is used as a component in automobile engines. Last year we produced 100,000 widgets, which we sold for $1 each. To produce the widgets we spent a total of $90,000. This year we want to improve productivity 10 percent. Simple enough. We make needed adjustments to produce 110,000 widgets while still only spending $90,000. Our productivity ratio goes from 1.1 (100,000/90,000) to 1.22 (110,000/90,000). There is the 10 percent improvement. So far so good.

However, if there was a similar increase in the productivity of all widget manufacturers and the automobile industry was in a small slump, it could drive the price of widgets from $1 to 90-cents. By successfully selling all 110,000 widgets, we would only receive $99,000 instead of the $100,000 we received the year before. Our productivity increase of 10 percent yielded a bottom line loss of 1 percent. (In general terms, this is what has happened in agriculture as the whole world has gotten much more productive. The remedy in this case has been to reduce input by taking land out of production, but we still produce more than the market needs.)

In the meantime, we may discover that to gain the added 10 percent increase in output with no additional people or equipment, our quality slipped. We then receive notice that 5 percent of the widgets we shipped were defective and lose credibility with important customers. The whole exercise would become devastating if we discover that a competitor has introduced a new widget made of entirely different materials, that costs 20 percent less to produce and lasts five years longer than our widgets.

This brings us to the input part of the equation which represents resource allocations to salaries, research, marketing, training and capital investments. What happens to productivity over the long run is difficult to project, based on the simple output/input figures. Added expenditures and investments this year might pull the total productivity figure down this year, but keep us happily productive five years from now. Added training expenditures may reduce turnover and improve work force contributions.

The exercise could go on forever and probably will, unless we really pay attention to what our friends in Japan have been trying to tell us for a long time. ***Productivity is not a matter of data, statistics and measurement. Productivity is a state of mind, it is an ethic, and it is a purpose.***

The perspective of efforts targeted toward improved productivity must be correct. Like everything else, real productivity gains depend upon the degree to which the final product is in harmony with the overall environment in which it is produced. At the most basic level, this simply means that the market has to want the product. Improving the productivity of an operation that makes products no longer needed is a waste of resources.

And there are other factors that determine the degree to which resources have been most productively utilized within a society. The message of the environmental movement should be clearer than it is. It is of little real value to society if we succeed in producing products or services of high quality and at low cost if, in the process, we degrade or destroy the environment. The costs of such processes and their products really include the costs of clean-up, of repair, and of lost opportunity from the diversion of resources to that reparation. ***With no long term view and a tenacious perspective only on this quarter or this year, it is altogether too easy to pretend the longer term costs do not count.***

All research on productivity at the operational level demonstrates very clearly that what distinguishes a highly productive organization or work group from another — no matter how you measure it — is the sustained, systemic, enthusiastic, unending effort by everyone involved to find ways of doing things a little better. Sustained productivity gains come from thousands of small adjustments, ideas and improvements over long periods of time throughout the system — not from some super new piece of equipment, or job redesign, or compensation scheme, or mystical insight.

What about robotics, CAD-CAM, and the automated factory? The story here is the same. The new technology can revolutionize our capacity to produce more output with fewer total resources consumed, but not by itself.

Technology is technology is technology. It is designed, purchased, installed, utilized and maintained by groups of individuals. There are countless examples of how the same new equipment in one place produced extraordinary productivity gains but was a disaster somewhere else. Today, the Japanese are far ahead of us in the effective installation and use of automated equipment, not because they have equipment or capital that we lack, but because we have yet to attain an overall state of mind that constantly seeks whatever will generate higher performance.

Productivity improvements are, by definition, descriptive of change. Continuous improvement comes from continuous change, and it is change that seems to be the problem. In the words of an expert in the new manufacturing technologies, we are not attaining the needed or expected productivity gains from the new technology because of "human resistance to change. Most CEOs are reluctant to tackle the five to 10 years of gut-wrenching cultural upheaval the installation of these systems require."

Quality

While defining productivity is a difficult task, developing a clear picture about quality is tougher. By definition, quality is a subjective term. It is also a relative measure because it positions something as better or worse than something similar to it. For all producers of goods or services, quality means what its customers find most desirable. The highest quality goods or services, therefore, are those that meet the expectations and desires of the marketplace most fully.

Efforts to measure quality often focus on such factors as rejects or defects during production. That, however, is more a measure of productivity than of quality. Quality suggests aspects that are not reflected in production data. Quality reflects design, creativity, style, dependability, etc. In short, quality is a measure of how closely and how carefully the producer has reflected the cares and interests of the customer.

There are no fixed quality standards in a high-quality system of production because the purpose is to always do it a little better. Quality comes from never believing: "That is good enough."

Our notion of quality is sometimes confused with cost. We tend to associate a quality item as the most expensive, the most rare, or the most precious. This probably explains why the overall quality of our products has slipped. Quality is not measured by price.

An organization, an industry and an economy are only able to deliver quality results if everyone in the organization is engaged in that effort. This means each employee, each supplier, each contractor is a vital contributor to the process. Systems are so interdependent that poor quality performance anywhere affects the entire process and the final results.

One of the more active concepts in management over the past decade has been employee participation. The most widely touted form of such participation has been Quality Circles. This form of team-oriented management became very popular in the late Seventies and early Eighties as the evidence from Japan suggested that there were major benefits from such involvement.

The core concept behind Quality Circles is that the continuing, daily attention to detail and a search for ways to improve the performance of a work group can, over time, generate higher levels of performance. ***The idea is that those closest to the reality of the day-to-day, minute to minute operation of any activity are best equipped to discover those changes that can increase performance and the final quality of the activity.*** The idea also suggests that teams can develop pride in their performance if they are given support and assistance for their own ideas about improvement, and recognition when they succeed. Within the organization in Japan, the entire process of communication and managerial decision-making reflects this same continuous flow of information, suggestions and ideas from interconnected teams of individuals throughout the organization.

The major obstacle to effective Quality Circles in the United States has been that, like prior improvement programs, they have been outside the basic managerial and organizational systems rather than made an integral part of them. If there are to be successful "teams" or "circles" in an organization, they must be installed at every level of management. ***They must represent an intention to open communication flows, reduce managerial levels, listen to employee ideas and suggestions and to support them enthusiastically.***

The managerial and leadership skills needed to effectively coordinate and support Quality Circles are not the same as those traditionally associated with supervision. The skills are much less those of directing than facilitating and interacting and representing. The needed skills are:

1. Active and Effective Listening. Here, the major responsibility is to assist the group by probing, encouraging and stimulating their efforts.

2. Conflict Resolution. All groups encounter conflicts to one degree or another as they work together. Assistance is needed to bring them through the conflict, to help them learn from the conflict and to move on.

3. Problem Analysis. There are many models and techniques that can aid in the analysis and resolution of problems or the identification of opportunities. In this case someone simply has to be responsible for learning these techniques and introducing them to the group at the appropriate time.

4. Action Planning. Moving from good ideas to their implementation is a key step for all groups. The leader takes responsibility for ensuring that tasks are defined and responsibilities accepted.

5. Feedback and Accountability. This is the process that ensures the group receives and reviews specific feedback on the results of its work and that it follows-up on the information presented through the feedback mechanism.

There is an important correlation between the tasks, the challenges, and the importance currently associated with innovation and entrepreneurship, and the factors that lead to higher productivity and quality performance. Innovations reflect the result of a creative realignment of existing resources to better meet the needs of a society than was previously available.

Successful innovation comes directly from a sensitive understanding of what the marketplace is seeking and a new use for resources currently being underutilized or utilized for other purposes. When you look hard at successful organizations, study the practices in Japan, or examine highly productive work groups, you find systems that are in the constant process of innovation and change.

You also find group cultures that emphasize and reward continuing quests for improvement, where innovation and change occur naturally through a mind set that sees higher productivity and better quality as the purpose of the organization in the first place.

There is an interesting test that any organization can do to demonstrate the power of the shift of mindset. It is the simplest definition of the difference between a driving emphasis on *quantity* and an emphasis on *quality*.

Take two work groups with identical or similar tasks. Tell one group that they must improve productivity through increased output. Set a target of 10 percent greater output with no increase in input. Further, they will share in the rewards from the 10 percent increase if there is no increase in cost. To the second group, establish a challenge of improving the quality of the product or service with no increase in costs. Let them determine the quality measure and the goal. Then, observe the behavior of the groups.

The first group will focus its attention inward. It will focus on effort. It will try to squeeze 10 percent more out of the existing system and will work harder. The second group will naturally turn its attention outward. It will learn more about the customer, will learn about the competition, will make efforts to better meet market needs. In this group the energy level will increase and new ideas will emerge.

If an organization actually succeeds in improving the quality of a product or service, eventually it will sell more. Organizations that produce more of a product will not necessarily sell more. Attention to quality can generate higher demand and higher volumes. The reverse, however, is not true. Attention to quantity does not lead to higher quality.

The slight near-term chances for improvements in our competitive position are reflected very clearly in a recent international survey of CEOs sponsored by Booz-Allen and Hamilton and the *Japan Economic Journal*. When asked what they perceived to be their greatest responsibility, American CEOs replied "Increase shareholder value " (51%). Japanese CEOs, on the other hand, replied "Increase market share" (44%).

As long as the attention of American corporate leadership is on the abstractions of paper value, as celebrated by the investment bankers and lawyers on Wall Street, we will continue the flurry of mergers, acquisitions, divestitures, and leveraged buy-outs that have dominated the American business environment throughout the mid-Eighties.

With all eyes turned to Wall Street, with our attention focused on the computer printouts and hefty documents of mega-deals, the possibilities of higher levels of productivity and higher orders of performance will continue to accrue to those whose attention is focused on the market, on emerging technologies and on the potentials for improved manufacturing processes. For those actually toiling in the vineyards of production, and marketing and research, the effort will have to continue while top management tries to outsmart the other guys.

The secrets of improved performance in the workplace are not associated with an easy technique or a manipulation of numbers or job descriptions or organizational restructuring. The challenge is both simpler and more challenging because it has more to do with values, concepts and visions than anything else.

Perhaps we will see major productivity improvements and higher levels of quality in American products and services in the next decade. The opportunity to achieve new gains in these areas clearly is before us. We may even improve if we do nothing because of the serendipitous convergence of some demographic, technological and organizational developments during that time.

First, since the demographics show we will have fewer new entrants into the work force and because we measure productivity in terms of output per employee, the decline in new workers will push the productivity numbers by themselves.

The technologies associated with robotics, computers and other automated equipment and systems are maturing to the point where their prices are falling while their performance increases. As in any marketplace, there is substitution that occurs as one alternative — in this case human labor — grows scarce and the other alternative, computer-related technologies, grows more plentiful and less costly.

The shortages of employees in some industries and, in some locations, has begun and this will continue to push labor costs up while the technological alternatives come down in price.

Second, the net result of the current scrambling by American companies to become more competitive, to become leaner and meaner has been a drastic reduction in unneeded overhead. With most of the fat gone, there should be a more direct relationship between costs and productive activity throughout the economy, with an attendant increase in productivity.

Third, there are signs that after 20 years of nonchalance, business, government and university leaders seem to have decided that our productivity declines are worthy of serious attention. We are even moving rapidly toward a renewed appreciation of manufacturing after years of neglect. It is, after all, the ***application of knowledge to the productive use of society that brings progress, not the knowledge itself.***

But most people have little to do, directly, with manufacturing and products. This is, as stated before, an information or service economy in which most people work with knowledge and information rather than things.

How you effectively measure and improve productivity when working with your mind, when the responsibilities are for creation, innovation and responsiveness is a major challenge. It is made more difficult by attempts to impose what little we know about manufacturing productivity to information-based tasks.

For example, there are numerous reports that purport to measure white-collar productivity. They are almost all based on some activity measures, such as memos written, meetings attended, files filed, copies made, telephones answered or calls made, papers handled, research completed, miles traveled, etc. No organization of which I am aware is in the business of writing memos, or filing files, or attending meetings, or completing research.

To institute meaningful productivity improvement efforts requires clear articulation of the intended accomplishments of an organization, or group, or individual. In most cases this is a difficult task. It requires clear articulation of "what business are we in?" before proceeding further.

In a turbulent environment where there is uncertainty and a shifting of markets, competitors and rules, the task of the organization becomes increasingly difficult to explain in simple terms. To fall back to process measures, however, will only make things worse because they do not confront the challenge of productive use of people or resources.

Productivity means doing better than we did yesterday. It requires constant adaptation and adjustment. The specific things individuals can do to maximize their contributions are impossible to define in detail. Where the real goal is creativity and innovation and truly excellent service, productivity measures — as we understand them today — do not work.

There are also theories suggesting that handling information through computers could result in productivity gains that exceed several hundred percent a year. The power and the speed and the new intelligence associated with expert systems and artificial intelligence allow information to be processed at nearly the speed of light. The problem here is that as we process this information at increasing speeds, it simply adds the requirement to handle that much more.

The real issue is how well we utilize the information available in providing a service or in producing a product. It is a quality issue, not a quantity issue. It is not how much information we have, but how effectively we use it to add value to our own performance.

Productivity in the information economy is a matter of measuring the quality and the performance of the mind and of intentions and of creativity. Seeking to improve our individual and group performance is vital, but it is the dedication to the effort, not the correctness of the measure, that is important.

The extreme distance between the concepts of productivity in an industrial, mass-production, engineered environment and the environment of today was well described by William Ouchi in his popular book "Theory Z." Based on his detailed examination of Japanese firms he wrote: "The first lesson of 'Theory Z' is trust. Productivity and trust go hand in hand, strange as it may seem."

The new environment requires precisely that ability to comfortably relate *trust* and *productivity*. With a determination to put solid measurements on what we do, we will get stuck at the first lesson because measuring degrees of trust is a difficult task — if not a contradiction. If management does not really trust the employees, they will not provide the levels of personal, financial, institutional or inspirational support and leadership needed to excel.

Ouchi goes on to say that the "common thread in Japanese life is intimacy. The caring, the support and the disciplined unselfishness which make life possible come through close social relationships." For those trained in the old school of tough, bottom-line business management where emotional involvement with employees was believed to inhibit sound business decisions, insistence that caring and personal involvement with one's employees is a positive trait is resisted.

This new approach to the management and organization of the work force requires the same philosophy as that held by Soichiro Honda, Chairman of Honda, who says:

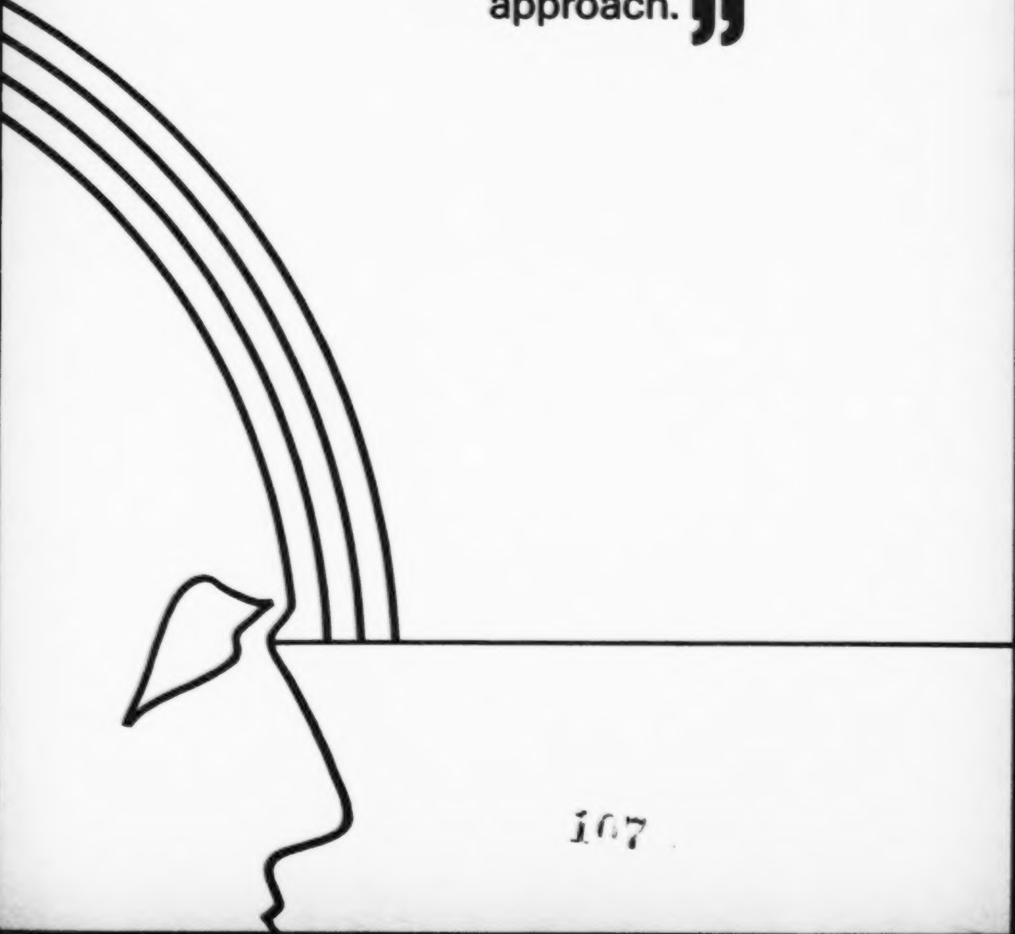
> ***"The most important thing in the world is not diamonds or gold, but humans."***

When the success of a business required strict adherence to precise procedures necessary to produce a stream of standardized goods, distance between management and labor was useful. ***When the success of an enterprise depends upon commitment and energy and enthusiasm and quality performance by all involved, trusting each other and caring about the group is a necessity.***

In the months and years ahead, individuals in the workplace can expect exhortations and plans and programs with the stated goals of productivity improvement, attainment of high quality standards and excellence. With or without these initiatives, however, the attainment of these goals rests upon the degree to which individuals at all levels choose to pursue their own productivity improvements, their own search for higher quality, and their own excellence. Moreover, it is only through this assumption of responsibility that as individuals we will secure some measure of security in employment because the personal gains from such effort are the only thing that will maintain and improve our prospects of continued employability.

CHAPTER 7

“Success requires innovation, flexibility and an entrepreneurial approach.”



CHAPTER 7

Innovation and Entrepreneurship: A New Approach to Worklife

The entrepreneur has emerged as the role model for the Eighties, replacing the organization man and MBA of the Fifties, Sixties and Seventies. From the heralded successes of the young whiz-kids of the computer era — Steve Jobs and Steve Wozniak (Apple), Nolan Bushnell (Atari and Pizza Time Theaters), Bill Gates (Microsoft) and Mitch Kapor (Lotus) to the fast-food giants and other major franchise operators — the road to success has been moved from Main Street to the country highways and back alleys.

Books and articles have come at a rapid pace, describing the heroic actions leading to People's Express, Compaq Computer, Genentech, Mrs. Fields Cookies, and Federal Express. "In Search of Excellence" was all about the formation of "skunk works" inside of organizations, within which unconstrained and innovative entrepreneurial behavior was allowed and encouraged, and a new term, *intrapreneurship*, was thrust into the vocabulary.

There is solid evidence that increasing numbers of people are indeed working on their own. New businesses are being incorporated at the rate of 50,000 a month, and this has been going on for many years. Entrepreneurship courses are being introduced at colleges, universities and other institutions across the country. There is even a strong group of collegiate entrepreneurs, who have formed their own association and present an annual award to the top entrepreneurs in the country under the age of 30.

The true impact of all this on work and career has yet to be fully felt. The effort and the activity is directed toward an environment that not only rewards entrepreneurial behavior but demands it, and demands it of everyone. To a certain degree, any discussion about the changing nature of management, organization, work and leadership is about this requirement for innovation and entrepreneurship.

Like the other concepts and phrases associated with business, the economy and work, entrepreneurship carries such a long history of imagery that it is difficult to relate it to the responsibilities of a banker, police chief, mayor or teacher. In the information age, however, it applies to us all.

Entrepreneurs are those who undertake, on their own initiative, the development and presentation of a new product or service into the marketplace. Entrepreneurs are not inventors. A single individual may be both, but an entrepreneur takes an idea or concept and transforms it into something he or she believes has enough value in the marketplace that others will buy it. Sometimes they are right and sometimes they are wrong, but the ambition and drive come from the belief that they have discovered something society wants and needs.

Traditionally, entrepreneurs have not been well understood. They have been characterized as reckless, driven, and a little strange. They are not, almost by definition, considered part of the mainstream. They are the outsiders. They are the ones who forgot that only kids are supposed to have lemonade stands.

There has only been a small amount of serious research and analysis of the entrepreneurial aspect of work and enterprise. There are many stories of how, through history, a few entrepreneurs have become famous or wealthy, or both. In the early days of industrialization there were highly successful entrepreneurs in the energy, automotive, banking, railroad and steel industries who were able to envision needs and assemble the raw materials needed to shape the new services or products to meet these future needs. The Rockefellers, Mellons, Packards, Fords, Vanderbilts, Carnegies, Chryslers and others made their money and their impact on history. In the beginning, they were the entrepreneurs.

More recently, there has been a flurry of articles that attempt to define and describe these wildmen (only recently has there been much attention to the fact that there are almost as many female as male entrepreneurs these days) in terms of psychological make-up. They are variously described as loners, driven by the need to succeed, driven by an inner rebelliousness, fearless in the face of risk. Most of all they are still described as unusual. Not of the mainstream, they are the outriders somehow unable to fit into the structure of normal organizations and careers. When all is said and done, at least one psychologist has asserted that they are driven to start their own businesses so that the "son symbolically defeats the father. He simultaneously builds and marries his organization; it represents the mother he could never win from his father."

Such tales and academic meanderings may be interesting, but they miss the point. Entrepreneurs and entrepreneurship are not aberrations. They do not reflect the behaviors of organizational and psychological outcasts any more than do those who are advertising executives or partners in law firms. To act entrepreneurially is to take responsibility for one's work and one's future into one's own hands. It is a purposeful attempt to create something new, or better, or different. It is putting one's career where one's creative ambitions are.

In the studies of entrepreneurship, the key observation is that entrepreneurs bring an element of "creative destruction" to established economic systems. By introducing a new product or service that meets existing needs better than what is otherwise available, they destroy many established businesses, systems and, sometimes, industries.

The buggy whip industry is the prototypical victim industry when such changes are described. Before the entrepreneurship of the early automobile manufacturers — and at one time there were hundreds in the United States — there was a growing business for buggy whip manufacturers. They served their markets well until the automobile changed the entire concept of transportation, rendering their industry and their product wholly obsolete. This displacement can be wholesale and obvious, or can be gradual as a series of innovations reshapes a market.

Without innovation and without entrepreneurs there would be no progress. We would still be struggling to survive without the endless stream of innovations ranging from the wheel and the lever to the electric motor, internal combustion engine, transistor, electron microscope, and the microprocessor. Entrepreneurs embody the special capacity of individuals to create, to actually bring into our lives things that never existed before. They are agents of change and sow the seeds of destruction for organizations and institutions which either do not keep pace or do not help create the changes themselves.

Today, there is an explosion of entrepreneurial activity as individuals and small groups, with ever increasing exposure to information and knowledge, perceive new and improved means of providing goods or services to the community.

For most of us, the feared and misunderstood destruction is of trusted methods, rules and techniques of organization and management. Entrepreneurship is clearly not within the realm of an established organization. It occurs outside!

We know, on the other hand, that we need greater flexibility, greater creativity, greater innovation and greater productivity if we are to compete. These are the characteristics of entrepreneurship and it is from entrepreneurs that the large and established organizations must learn.

This is an interesting reversal from the old idea of who teaches business and organizational skills to whom. In the past, it was the entrepreneur who was, by definition, bound to fail because he or she did not have the skills, the training, and the management skills of those in the large corporations. The whole theory of venture capital and of business development rests on the premise that companies pass through phases, the first of which is the entrepreneurial phase. If sound management does not take over after the entrepreneurial phase, the company will fail because the raw energy, the enthusiasm, the innovative drive of the entrepreneur is not appropriate to the tasks of managing and controlling an ongoing operation.

When product life-cycles could be measured in decades, when change occurred much more slowly than it does at present, the need for a calm, precise, organized manager who could oversee the long period of market penetration, expansion and eventual decline was clear. ***When product life cycles shorten to the three- to six-year periods we are seeing today, it is the managers, controllers and administrators who have to learn to become entrepreneurial if they are to survive.***

It is now the established organization that needs to learn the techniques, the skills and the approaches of the entrepreneur, rather than the other way around.

As usual, this dramatic breach in our prior understanding of sound management has been filled early and significantly by Peter Drucker, whose 1986 book, "Innovation and Entrepreneurship: Principles and

Practices," should be required reading — and study — by *all* managers. He argues forcefully and effectively that entrepreneurship can be learned and supported by organizational behaviors and practices that encourage it. To ensure that the urgency of adopting such behaviors is noticed he says:

> "Today's businesses, especially the large ones, simply will not survive in this period of rapid change and innovation unless they acquire entrepreneurial competence (and) it is not only in the self-interest of the many existing big businesses to learn to manage themselves for entrepreneurship; they have a social responsibility to do so."

Entrepreneurship is clearly needed in institutions other than business. It is perhaps in our education, governmental and non-profit arenas that entrepreneurship is most necessary. Slowly but surely, our universities and hospitals have begun to scramble to meet the challenges of entrepreneurs offering new and better services on their turf. Both the educational and health care markets have grown dramatically in the last few years as individuals have spotted and responded to new opportunities and new needs in these fields.

Unions and associations of all types have been finding that traditional services to their members are inadequate to the task of maintaining them. Foundations are also not demonstrating great success in their traditional practices of intervention to approach today's urgent needs with new and innovative programs.

Governments, communities and elected officials also can be entrepreneurs. They can shed the cloak of the past and discover exciting and untapped possibilities. We have seen such public entrepreneurs in Henry Cisneros, William Shaefer, James Hunt, and Michael Dukakis who reflect and encourage an entrepreneurial approach to problem solving, to economic development and to opportunity.

Educators and teachers must be the most entrepreneurial of all. Within a system woefully out of date, yet holding charge of training and preparing the next generation, some risk-taking, some innovation is required. New applications of the new technology, new combinations of the resources, a new excitement with learning can help us forge the experiences and the skill bases children need to be effective participants in the work force of the 21st century.

When thinking of the unemployed, the poor and the disadvantaged, we do not necessarily think of entrepreneurship. But it is here that the magnitude of the changes in our thinking must occur. Unless we approach those with a need to become an active and productive member of the emerging economy, with a belief that they have the potential and the capacity to act entrepreneurially, we will be burdened with programs and policies that attempt to train them for a job.

One organization that has worked diligently to reframe the debate and the approaches to income maintenance programs is the Corporation for Enterprise Development (CfED) in Washington, D.C. This non-profit company believes that ***our national policies of education, training and economic development should be geared toward "expanding the opportunity to produce."*** This phrase embodies the new idea about people, about work and about our collective responsibilities regarding both when it comes to the disadvantaged. The CfED has been so bold as to argue that people should be able to receive their welfare or unemployment checks in a lump sum as venture capital if they have a business plan, or that states should pool their income maintenance funds to develop systems of support for new enterprises created and run by the intended recipients.

Intrapreneurship

When entrepreneurship enters the organization today, it is called intrapreneurship. As practiced and discussed, the phrase seems to embody one or more of the following concepts:

1. The conscious effort by the organization to identify and support individuals or teams of individuals within the organization who wish to pursue an entrepreneurial idea for a new product or service.

2. Adoption of managerial and organizational techniques that establish an environment in the organization that actively promotes innovative and creative behavior by its employees.

3. Programs to provide internal financing for the business ideas of those individuals who are among the most creative and aggressive of an organization's employees, and are likely to leave to pursue their entrepreneurial ambitions without that support.

4. Special product development teams given relatively free rein to introduce new products into the marketplace.

The most recent round of publicity and discussions about the meaning and value of intrapreneurship were stimulated to a large degree by the publication of Gifford Pinchot's book titled, "Intrapreneuring," (Harper & Row, 1985). Pinchot seems to have coined the word and is both a convincing writer and articulate lecturer on the subject. As is always true with new ideas, however, the basic concepts seem to have been developing simultaneously in many quarters as individuals sought ways to respond to rapidly shifting markets and technologies. Much of the response to Pinchot's book rightfully pointed to the existing entrepreneurial behaviors of such firms as 3M, Honeywell, General Electric, and others. It should also be mentioned that the IBM approach to creating the personal computer was clearly intrapreneurial.

For an organization to actually proceed to develop entrepreneurs is a task that involves much work and thought. The idea is exciting and stimulating; successful implementation is another matter. To my knowledge, only one company has developed a program that is capable of assisting an organization through all of the steps necessary to actually create intrapreneurs. This organization, The Foresight Group, is Swedish and has been operating The School for Intrapreneurs for over seven years.

The program was so successful in Sweden that The Foresight Group is now working to establish a client base throughout Europe and the United States. Among its first clients were Control Data, Southwest Bell, Scott Paper and Owens Corning. Arthur Young & Co. was so impressed with the program and its results that they have entered into an agreement with The Foresight Group to make it available to their clients.

The Foresight Group has articulated a basic framework for considering the nature and value of intrapreneurship:

1. To be successful, any intrapreneurship project must have *learning* as its primary purpose; to learn how to manage and organize under more fluid, less predictable conditions than is true in traditional organizational settings, to learn how many employees have entrepreneurial vision burning in their minds and hearts, to learn about products and markets that there would otherwise be little familiarity with.

2. A secondary purpose must be that of *financial success* with the new products or services that the intrapreneurs develop. A pivotal difference between good intrapreneurship programs and other, less targeted attempts to develop a more innovative or creative work force, is the promise of new products and services for the organization. There is a quantifiable business objective in such programs.

3. A final purpose must be *to establish a more entrepreneurial spirit and working environment throughout the entire organization*, not just for the intrapreneurs! The adoption of an intrapreneurship program by the leadership of an organization sends a powerful message to everyone in it. The message says that innovative, independent pursuit of new ideas and concepts is in the best interest of the organization. This message will threaten those who need the security of a more traditional and predictable environment, but will stimulate those who believe they have a better idea regarding some aspect of the organization's work.

Full realization of the potential of an intrapreneurship program requires the full and enthusiastic support of the entire organization. The intrapreneurs will succeed or fail to a large degree because of their ability to draw upon the information, experience, tools and other resources of the organization. These resources give them a leg up on independent entrepreneurs and should be brought to bear on the intrapreneurs' projects. ***Launching an intrapreneurship program while expecting the rest of the employees in the organization to proceed on a business as usual basis will doom both to performance levels far below their full potential.***

In the Foresight model, employees who actually become intrapreneurs are those who have selected themselves as the result of a process that offers the opportunity to participate to everyone in the organization. Through a series of interviews and work sessions, only those employees who truly have a potentially good business idea and the drive and enthusiasm to pursue it are selected for the program. The self-selection aspect of the program is important. It builds on the existing evidence that successful entrepreneurs cannot be pre-selected by any set of criteria; they cannot be appointed. Entrepreneurs are those people who just happen to combine and balance a mix of creative and personal energies that enable them to visualize and doggedly pursue an innovative idea to completion.

A good idea does not make a successful product or service. Success comes from hard work. Serious planning, testing, marketing and organizational work is required to take an intrapreneur's original vision and turn it into a viable business. The organization must be prepared to provide the technical, material and moral support that launching a new idea needs to be successful.

The organization also must be prepared to accept failure. New products and services are never guaranteed to be successful and it often takes several attempts to shape a worthy concept into a viable product. The intrapreneur whose project does not meet commercial expectations must not be classified a failure and lose status within the organization.

Success may even be more difficult to handle. It is not altogether unlikely that an intrapreneur's business will be a dramatic success, outshining the performance of many of the established products or services of the organization. Enthusiastic and effective response to these situations requires real flexibility and an entrepreneurial attitude within the leadership group itself.

An intrapreneurship effort can only be successfully undertaken if the organization is prepared to alter the nature of the assumed contract between employer and employee. What is required is a new form of partnership with the individual employee in which both parties share in the risks and costs of pursuing a new venture, and share in the rewards as well.

The employee must be prepared to contribute his or her most precious ideas and ambitions, must be prepared for the constant struggle and frustration that all new enterprises entail, and must risk position or role in the organizational heirarchy. The organization must see the intrapreneur as a partner with whom it will pursue a new venture.

The organization must accept the loss of direct control over these individuals and be willing to honor and reward divergent thinking and behavior within the organization. The entire reward system for the intrapreneur will have to be reworked. As that happens, the reward system for others in the organization will be called into question, as will the willingness of the organization to accept the ideas of other employees.

Intrapreneurial activity pulls the organization toward a working environment that reflects the needs and opportunities inherent in this new information or knowledge-based economy. One of the reasons such programs can be of real benefit to the organization is that they offer a structured and potentially profitable program to test and become comfortable with some important new concepts regarding management and organization before introducing them into the entire organization.

The characteristics of this new organizational environment are:

THE CHANGING WORK ENVIRONMENT

	Traditional	**Intrapreneurial**
External Realities	Mass Market Economy Economies of scale Producer Driver Capital Intensive	Fragmented Economy Appropriate Scale Consumer Driven Information Intensive
Basic Goal:	Wealth	Meaning
through…	Power and Control	Knowledge
with…	Rational Analysis	Experience
by rewarding…	Discipline, Conformity to Standards	Diversity, Ingenuity, Individuality
to achieve…	Maximum Output	Quality Performance
requiring…	Hard Work, Personal Detachment	Innovative Thought, Personal Involvement
leadership…	Credentials, Rank, Position	Vision, Performance, Commitment

Intrapreneurship is an exciting concept. It is tailor-made for the current business environment, as large organizations attempt to regain the spirit and the energies needed to respond to rapidly changing markets and technologies. If nothing else, these efforts offer a pragmatic means of learning some very important things about new markets, new technologies and new forms of employee/employer relationships. They are worth a try. They are at least as promising as more business-as-usual.

The fundamental steps and commitments required for initiating an intrapreneurship program follow. They suggest a major commitment on the part of the organization to pursue both the direct and the indirect benefits of the initiative.

1. ***Top management must be commited to the idea of intrapreneurship and must fully consider the implications for their existing management and organizational systems.*** The types of support needed for intrapreneurs are quite different from that given to regular employees. If management is not prepared to adapt to these new needs, then the program should not be undertaken.

2. ***Top management must also be prepared to commit financial, information and other resources to the successful completion of the projects developed by the intrapreneurs.*** They must also define any limitations relative to the types of projects they can comfortably support prior to announcing the program to the employees.

3. ***All employees in the organization (or division, group, etc.) should be eligible to participate.*** Volunteers should be solicited for a series of increasing more intensive interviews regarding their ideas or proposals. Candidates should be chosen based upon the apparent strength of their concept and their level of commitment to it.

4. ***The intrapreneurs should be trained and assisted in the process of transforming their vision into a sound business plan.*** Their training should occur as an additional task while they maintain their current responsibilities. This helps measure their commitment to their idea and retains their involvement and contributions to the ongoing business. In the Foresight model, this process takes about six months and concludes with a fully

developed business plan and, in most cases, a first order for the product or service.

5. Throughout the training and product development period, others in the organization have to be willing to lend support and assistance to the intrapreneurs. This requires good communication and some training of key people throughout the organization who are responsible for marketing data, computer time, fabricating facilities, etc.

When evaluating the behavior and organizational changes that all this new entrepreneurial thrust brings to our ideas of management and work, we see more pressure on the established methods of doing things. For example, surveys and studies of how entrepreneurs plan and manage indicate behavior most unacceptable in a traditional organization and a violation of the basic premise of sound business. They operate under goal-less planning. According to a recent survey 67 percent have no written plan. They employ instead, action-oriented, flexible strategies leaving their options open and acting on hunches and intuition. (This sounds suspiciously like the characteristics of excellence reported by Peters and Waterman.)

The managed and engineered approach to organization and management common to most organizations today constantly attempts to respond to new challenges and opportunities through the introduction of a structured program to accomplish their goals. Whether it is an intrapreneurship program, an innovation program, a skunk works, a product champion, a Quality Circle, an MBO program, or any other pre-programmed solution, ***managers need to be clear about the fact that the answer does not lie in any program.***

The work force today is too smart for a program. They know the difference between an organization that is attempting to create an entrepreneurial culture and one that simply has a program. In the former situation, there is a real chance for success. In the latter, there is no hope at all. ***It is not that the programs are bad, or wrong or poorly designed, but real change only occurs when there is a deeply felt, intelligent, and well-articulated commitment to seeking the change.***

Creating and sustaining an entrepreneurial organization is a difficult task. It is so difficult that few organizations or chief executives will have the will and the strength of vision to pull it off. Indeed, it should not even be attempted unless the chief executive believes entrepreneurial behaviors are required, and is willing to implement anything necessary to achieve them. In the large publicly-held companies it will be particularly difficult because of the constant pressure in the United States to meet quarterly financial targets.

For those in the work place we have to be clear about the risk-taking and the uncertainties associated with entrepreneurship and remember that these definitions are *relative*. They are seen as more or less risky than a normal job. Today and in the future, the difference is shrinking and, indeed, normal worklife conditions are looking more and more like those of the entrepreneur.

CHAPTER 8

"The biggest mistake
you can make
is to believe
you work for
someone else."

CHAPTER 8

Employer/Employee Relationships: Rewriting the Social Contract

Work is undertaken both as an economic endeavor, and as a means of self-expression and personal growth. Whether we produce corn, cut hair, write newspaper articles, legislate laws, assemble automotive parts or invent software codes, we do so to obtain something of value in return. Governing these transactions is a complex set of formal and informal contractual agreements.

For most persons, the basic contract is between individual (the employee) and organization (the employer). It defines the employer/ employee relationship involving money, benefits, training, working conditions, and advancement opportunities in exchange for the time, energy, commitment, loyalty and skills of the individual. For both the employer and the employee, all future plans are made based on this contract.

This contract also reflects a mutual understanding of the rights and responsibilities of employees and employers. It also reflects the basic values, goals and ambitions of the society as a whole. As societies change, the contracts affecting work also must change. Thus, when social change is dramatic, the change in the contract is dramatic as well. For example, it was acceptable once for an employer to own employees, buying and selling them at will. But our society changed, the basis for the contract was destroyed, and slavery came to an end.

Dramatic change once again is occurring in America. Accordingly, the change in the social contracts governing work will change as dramatically.

Signs of the continuing attempts to rewrite contracts between employer and employee are obvious and, clearly, it is a difficult task. To examine the diverse and complex set of issues that constitute the conditions of work and the terms of the overall contract, five major areas of interaction are addressed:

1. The Social Contract
2. The Financial Contract
3. The Human Contract
4. The Binding Contract
5. The Union Contract

With so much involved, we cannot expect this redrafting process to be painless. Throughout history, the attempt to define the rights of employers and employees often has led to bitter struggles.

The miracle that is the industrialized world was built on the back of the blue-collar worker. Unions came into being to struggle for a legitimate sharing of the fruits of the labor of its members, and to press for improvements and changes in the social contract between employer and employee. Modern history is filled with violence and hardships caused by the battle between labor and management over this contract.

Today, our ideas about the rights, responsibilities, and obligations of employers and employees are based on 200 years of labor-management relations, and on the contractual arrangements that we hammered out over the last five decades in the courts, and around the bargaining table.

The Social Contract

The social contract that we make regarding employment is based as much on the accepted ethical and moral norms of the society as they are on economics. A society that believes women and minorities are inferior to white males will not implement equal employment opportunity practices. A society that believes wisdom, creativity and good judgment accrue only to those with credentials from major universities will ensure that those individuals reap the greatest benefits from the contract.

Organizations generate systems of employment and contracts that reflect their basic value systems. Those which believe people are creative, innovative and competent have contracts that give employees great control over their work, and reward them directly for performance. Those organizations that believe there is an important relationship between the health and well-being of employees and their performance at work create contracts that promote their physical and mental health. Those that believe that sharing information promotes higher levels of performance and greater customer loyalty share that information willingly.

All the major aspects of rights and the responsibilities of the employee/employer relationship will be reshaped over the next decade. Nothing will remain unchanged, from the initial hiring process to leave policies, insurance benefits, pensions and retirement. The relationship will change simply because the basic economic and social conditions that determine the value of the contract are changing.

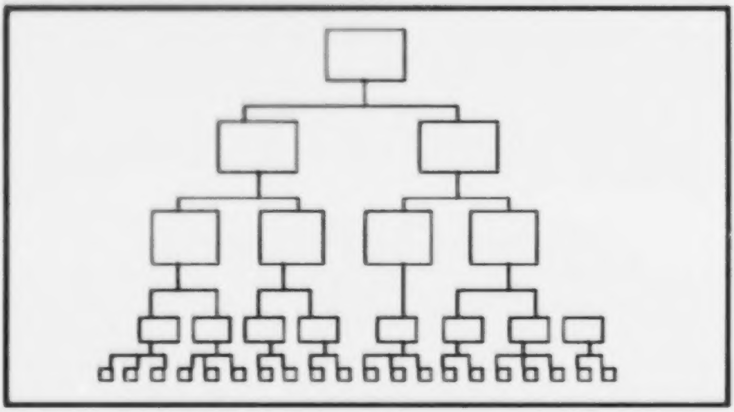
The contract will change because the information age, without the 30-year career path, destroys a cornerstone of the old contract. The workplace is full of turbulence, uncertainty and disruption. There are the problems of layoffs, outplacement and firings. There is the more subtle problem of plateauing — of the perceived dead ends that mid-career employees face as organizations streamline, restructure and decentralize.

These changes inevitably bring either a sense of failure for the individual or anger with the organization, or both. Plans have been made based on a social contract that said sustained and loyal performance would lead to promotion, higher status and greater security.

The dire consequences of breaking the contract cannot be underestimated. It is bringing the most stable and respected American companies into confrontations they neither like nor for which they are well prepared. Richard Heckert, chairman of the board of DuPont, recently told a gathering of human resource professionals that the company has had to change a "two-century tradition of hiring people for lifetime careers." DuPont found the 38,000 person reduction very painful because, he said, the company was "in the business of creating wealth, not restructuring it." There is no clearer description of the basic assumptions and expectations of the employer/employee relationship than that — and it is ending.

Those two centuries also carved the rest of organizational design and behavior in bedrock. That time was spent learning how to manage and control the organization to meet the demands and expectations of an industrial era. The model or picture that described "how" to organize was precise. It looked like this:

THE ORGANIZATION CHART — INDUSTRIAL AGE



This familiar organization chart reflects the nature of the industrial era and the perceived relationships that existed between employers and employees. Deceptively simple because of its familiarity, it is built on a dying social contract. It defines career paths; it has clear, linear, tightly drawn relationships indicating higher levels of reward, benefit and compensation as you move up the chart. It also has a clear place for everyone in the organization, and the employer can describe in great detail the responsibilities, benefits and opportunities associated with every spot on the chart.

Today the organization charts no longer have the permanent meaning, and are being redrawn weekly. The boxes into which we fit on the chart are being eliminated, and it is increasingly difficult to know for whom we really work.

This change provides additional evidence that we work for ourselves. Our own awareness of change and our own ability to contribute to the health of the organization — this year — will define our worth. In a sound organization, the communication, the relationships and the training will generate maximum participation by each employee, both in meeting immediate challenges and in preparing for the demands of an unpredictable environment.

Effectively rewriting the contract is critical to organizations because the best employees — the highest achievers and the innovators — will be the first to find the old contracts unacceptable. Rather than grow disgruntled, they will apply their talents elsewhere, perhaps across the street, as a competitor.

A positive approach to this condition has been instituted by such organizations as Merck & Co., where there are a host of lateral and rotational opportunities at all times. Merck believes that switches in assignments provide growth and movement, even though it is not movement up the career chain.

The ability to identify, motivate and retain the high achievers separates the winners from the losers. If we have a worklife characterized by jobs and job descriptions, where the job rather than the individual is important, then we create one set of behaviors, standards and expectations. ***As we move to a situation where the individual not the job is important, the entire set of assumptions, policies and organizational techniques must change to accommodate that circumstance.***

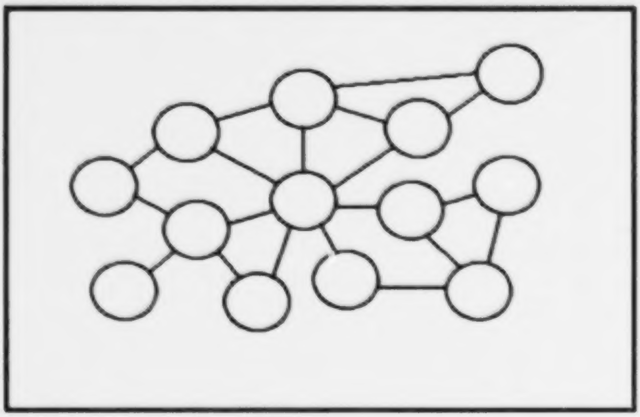
One response to the challenge of innovation within the organization relates to non-career options and the intrapreneurship concept discussed in Chapter 7. Like Tom Peters' skunk works, the creation of the space, opportunity and challenge to create something new and solve a pressing problem draws out the best in people. Because these concepts violate the personnel and compensation system and policies, they have not become standard organizational practice.

These projects, by their nature, require that the participating individuals be treated differently than the traditional employee base. Established systems are driven by complex formulas relating compensation and benefits to a rigorous test of fairness and uniformity (where "fairness" means time spent with the organization, education level, or, sometimes, the results of the firm's performance).

This moves us closer to a model of open relationships driven by mutual need — relationships consistent with a complex, rapidly changing world. A 20- to 30-year commitment is no longer relevant and will disappear.

The new model of organizational and employee/employer relationships reflects a changing economy and society. It is non-linear. It is open and participatory. Because it does not appear certain, it makes people nervous. For these reasons, it is appropriate.

THE ORGANIZATION CHART — INFORMATION AGE



This chart illustrates the future relationships between employee and employer, and is consistent with the new technologies. ***It is based on continuous flows of information in a non-heirarchical fashion.*** There is no clear status within any of the individual circles and a lack of precision in the tasks and responsibilities associated with each. Held together by common purpose and cooperative exchanges, it reflects an organic system able to respond quickly to changes in the external environment.

As discussed elsewhere, the new reality is one of democratization regarding access to information and knowledge. This will apply to the compensation and reward systems within organizations, as well. Relationships between the organization and those who work for it, closely tied to the stated strategy and culture of the organization, are relevant to the times. Continued secrecy and non-equal treatment within the organization will create an organization of non-equal performance, bitterness and high turnover.

A major struggle looms as the distance between top corporate officers and the majority of their employees is increasing — this when "our people are our most vital asset" appears to be a top management theme. It will be further questioned as the realization grows that top management must be attentive to the market, to the technologies, and to their own organizations rather than to Wall Street and the stock exchange, and their legal staffs.

The Financial Contract

The simplest aspect of the contract between employee and employer is that of pay and benefits. This exchange can be fairly easily stated and negotiated according to the basic supply and demand (though not totally, as discussed below). In earlier times, this was the heart of the relationship between employee and employer because the driving force was the exchange of the physical effort for a prescribed financial return. Even at this basic level, however, the financial exchange is becoming more complex and the subject of heated debate.

How an organization believes it should behave toward its employees is reflected by the contracts it makes with them. Many forms of contractual agreements exist between individuals and their employers. Existing arrangements met the needs of an earlier time, but do not necessarily meet future needs. In fact, nearly all are being reshaped as a new social contract is invented.

As with other aspects of work, ***compensation has been an exchange based on the historic and common model of "a day's pay for a day's work."*** Most compensation schemes still reflect a period when the time and energy an employee contributed to the organization were all important. Compensation levels remain, in most cases, related to three factors: hours worked, quantity produced, and seniority.

Since compensation is a basic motivating element in all enterprises, ***organizations receive the performance and behavior from their employees that the compensation system encourages.*** If the desired strategic need is consistent, sustained, repeatable actions over specified periods of time where competence comes with experience and seniority, we institute a set of standard, uniform and predictable rewards. Where the strategic objective is to produce as many of something as possible, then paying "by the piece" is a useful system.

Compensation has been most closely associated with particular jobs or job titles. As jobs change at a rapid pace, and as they disappear, a job-specific compensation scheme is rendered useless.

When the strategic objectives of the organization shift to innovation, competitiveness and performance, the reward systems must shift to generate the appropriate behavior and skills. What is needed is a work force capable of obtaining as many skills and as much knowledge as possible. Consequently, compensation must be more closely tied to skills and knowledge.

A growing number of firms are separating the work force into teams, with compensation tied, in part, to the number and levels of different skills each individual develops. Then, the loss of one individual does not harm the performance of the group. It also reduces anxiety regarding the potential change or elimination of a particular job. There are even movements within local unions to eliminate the seniority provisions of contracts.

In an information and knowledge-based economy, this creates a need for education and training that are job-related and directed toward personal growth. Linking compensated education and training benefits to a specific job makes sense only when there is certainty that the job will remain essentially unchanged for a long time. As jobs, tasks, and information needs shift, acquisition of knowledge will be even more important in the future, both to the employee and to the employer.

In today's workplace, individuals have a wide range of needs. No longer a uniform group, employees expect options in the types and amount of benefits offered.

These options, first reflected in the broad area of flexible benefits or cafeteria benefit plans, will continue to expand into the areas of time, location, and other aspects of work. Flextime and telecommuting are growing slowly, but the reasons for their existence are getting stronger and the pace of their adoption will continue. To remain productive in an ever changing environment, "flexpertise" must be encouraged through expanded education and training programs.

This will help move us toward the time when our worklives are defined by individual or team contracts with one or more employers. They will be of specific duration, for specific terms, and will be completely open. The expectations will be spelled out and the tradeoffs made between certainty and potential returns from high performance. In this way we will increasingly resemble the "entrepreneurial society" that Peter Drucker and others are writing about.

The compensation issue comes home to roost with comparable worth. This issue will be resolved only when reality rises from beneath the current intellectual fascination with statistics and mathematical models designed to affix values of jobs that fit the old linear model. Comparable worth says that everyone engaged in each job should be compensated in a manner that is equal to what others with a comparable mix of experience, education, attributes and performance results are receiving. If that sounds obtuse, it is simply because the concept of "comparable worth," as it's now being debated, is equally obtuse.

What is not obtuse, however, is pay equity for everyone engaged in the same set of tasks, or shouldering the same responsibilities. Compensation levels must be determined by the supply and demand of the marketplace. In this case, the fundamental issue involves pay equity for women.

There are still far too many circumstances in which women and minorities are performing precisely the same jobs as white men, yet are receiving far lower compensation. This is particulary true when you look beyond direct pay to promotion and advancement opportunities, training, and other less obvious, but crucial, forms of compensation.

Some enlightened firms have adopted equal opportunity as a serious aspect of their organizational culture. This was not difficult, once they decided it was a better alternative than legislation and regulation. And if you believe Tom Peters, having a work force that mirrors the customer community only helps strengthen the closeness and the understanding necessary to be a little smarter regarding the market.

Gannett Co., Inc., has created a serious policy of equal opportunity and has an active commitment to it. Here is how company President John J. Curley describes Gannett's philosophy:

> "Gannett's commitment to equal opportunity is more than a policy of words posted on a bulletin board. From top to bottom that commitment is reflected in our policy of hiring, promoting and rewarding the people who work for Gannett.

It doesn't matter in Gannett where you were born or what your family's social status was. What matters to us is performance."

As a result of their policies and their practices, Gannett has been recognized by *Black Enterprise*, *SAVVY*, and the publishing industry for their equal opportunity performance. Recognition of this type, in a broader environment of ethical and moral weakness, can only heighten Gannett's access to the best people, and create pride within its work force.

Like other issues of fairness, equity and justice, if employees and employers cannot work it out themselves, the government will resolve the EEO dispute. The EEOC can be strengthened and there can be more quota and inspection systems. This alternative may create statistical, emotional and legal nightmares, but it attracts everyone's attention. And if we think these rules and regulations create artificial solutions, they are no more artificial than a world where one is placed in higher status and paid more because he happens to be a white male.

If an EEOC inspector does not grab an employer's attention, perhaps a law suit that claims psychological damage because of inequity in the workplace will. Such claims of injury are growing rapidly in most of the nation's workers' compensation agencies and the courts. Individuals are being compensated for the mental anguish and psychological distress caused by their working conditions.

The Human Contract

Employers can expand their relationship with employees to include concern and involvement with them as individuals who have needs, potentials and responsibilities that extend beyond the workplace. How far this relationship and contract goes depends on how important human resources are to the employer. As contributions of employees determine more the levels of success for an organization, and these contributions come from the willingness and ability of the individuals to contribute their very best, enlightened employers are becoming more closely involved with their employees.

Another major change occurring in the employer/employee relationship is the new acceptance of the employee as a whole person. Reflected in the growth of parental leave, day care, eldercare, education, spouse counseling and other programs, the shift recognizes that people have deep personal ties outside of the workplace and the well-being of their families is a vital aspect of their lives.

This new relationship is a natural outgrowth of an environment in which the creative, emotional and personal contributions of employees are important to the organization. Working at a station on an assembly line required only the physical presence of the individual and minimal personal involvement. When employees become the competitive difference between one organization and the next — and they have — then their total attention, enthusiasm and concern must be considered.

As the president of America West Airlines put it: "Work and family are no longer separate. When a parent feels good about how his/her child is being taken care of, his/her disposition at work is better. If we have a 'leave your personal life at home attitude,' we're going to pay for it."

Much of the change is clearly caused by the tremendous increase of women in the work force. Half of the work force is female and it is projected that close to 90 percent of them will have a child while employed. Because it is expensive for an organization to replace someone on a part-time basis, there has been resistance to pregnancy and parental leave. Only one of three women is covered by any pregancy leave policy. Among the largest companies, only 38 percent will guarantee a woman the same job after a leave for child birth, and only 40 percent of the companies continue full pay.

The U.S. Chamber of Commerce estimates that the cost to replace a permanent worker is about $250 a week, or $4,000 for a 16-week child birth leave. This is not the full story, however, since studies of the payback is very high from human resource policies that allow pregancy leave, provide for child care and generally assist the employee in meeting their normal family needs. Absenteeism is reduced, turnover is lower and morale is higher. Given the growing shortage of workers and the ability to perform work at home, allowing a woman time off for child care, or a father time off to be with a new-born child, is less of a "disruption" to the organization than it once was.

Just as the basic responsibilities employers and employees have to each other are in question, employers are attempting to deal with the problems of theft, drug abuse, and infectious diseases in the workplace.

Estimates of the costs of theft and drug abuse to American business are not uniform, but it is clear that they are substantial. For instance, estimates on 1986 losses from substance abuse ranged from $26 to $100 billion a year after productivity losses, absenteeism and increased health care costs were included. Estimates of loss from employee theft were $10 billion.

A National Task Force on Drug Abuse in the Workplace will report its findings at the end of 1987, but some of the early findings suggest that between 8 percent and 17 percent of the work force are abusers. Earlier studies by the Insitute on Alcohol Abuse reported 15 million active alcoholics in the workplace, and that 47 percent of industrial accidents could be traced to alcohol abuse.

Employee theft is also a real problem. When a National Institute of Justice survey in 1983 asked people, anonymously, about stealing from their employers, 33 percent admitted stealing, and experts believe the figure is higher. The report went on to say:

> "Loss of employment and subsequent embarrassment simply does not carry the same social risks (for younger people) when compared to the effect on the older employee for whom more is placed in jeopardy. Some younger people have no loyalty to the company. To them this is ripping off the establishment, and it doesn't bother them."

There is more to this than taking things home from the office, or even undertaking large scale theft. It deals with the entire organizational culture, and the quality of the relationship between employee and employer. As the report stated, those most likely to steal were those who felt "exploited by the company or their supervisors."

In response to pressures to become more productive, to cut costs and be more efficient, many employers are testing employees to identify real or potential problems in these areas. The number and frequency of tests being administered to both current and prospective employees has risen dramatically. Employees are being submitted to a variety of tests, from paper-and-pencil honesty tests to polygraphs, handwriting analysis, and urinalysis.

The National Institute on Drug Abuse reported that, while in 1982 only 3 percent of United States firms administered tests for drug abuse, the number had risen to 33 percent by 1986. Other data suggest that another 17 percent plan to add such tests in 1987. Often the stated goal of the testing is a desire to protect employees and others from the risks associated with an "impaired" worker. The object of the testing has been to find those who are, or might be, impaired and remove them from the workplace.

This rapid increase in extensive testing has generated a number of challenges, both legal and otherwise, because very basic questions of individual rights, privacy, and unreasonable search and seizure are at stake. The questions concern *who* should be tested, *what* should they be tested for, *which substance* can be tested for, how *reliable* the tests are and by *whom* the tests should be administered.

The nature of the problem becomes clear when the statistical data is applied to a particular work group as justification for random, mandatory or voluntary testing. If, for example, you are one of the 24,000 members of the National Association of Air Traffic Specialists (NAATS), the statistics suggest that somewhere between 8 percent and 17 percent of your members are substance abusers. According to this assessment, somewhere between 1,100 and 4,000 members are impaired. Because of these statistics, the FAA, then, determines it must test your members to identify the 8 percent to 17 percent.

In the meantime, other evidence shows there has never been any indication that substance abuse has affected a member on the job. The tests are not close to 100 percent reliable and, moreover, cannot determine if an indication of a drug reflects work-related use or impairment. To protect the privacy of the members, NAATS takes the issue to court.

The murky area of rights, responsibilities and accepted social norms is further exemplified by recent moves to limit or ban smoking in the workplace. Compared to other forms of substance abuse, tobacco is relatively minor, on the social scale. Here, however, decisions are influenced by the continuing acceptance of wellness and preventive health care, and by the fact that smoking has been linked to cancer. Because there are indications that non-smokers may be jeopardized by the "ambient" smoke, there is a clear move by society to prohibit public smoking.

Theft and honesty are probably easier to confront than substance abuse because they indicate behaviors that are clearly unacceptable, if not illegal. No employer wants or can afford employee theft, and it is a major problem in many industries.

There are widespread testing efforts designed to prevent theft by pinpointing dishonesty in prospective employees. Techniques used to screen out potentially dishonest employees include handwriting analysis, polygraphs, voice-stress analysis, background checks, and paper tests.

Honesty testing is big business. Approximately 2.5 million paper-and-pencil psychological honesty tests are given each year by more than 6,000 employers, primarily those in the service industries where employee exposure to goods and money is high. In total, approximately 8 percent to 10 percent of employers now using them. The paper testing approach is being used most often because 23 states have banned the use of lie detectors in the employment process, and they only cost about $8 to administer versus $40 to $50 for polygraphs.

Screening in this manner is a natural response to the problems of theft, drug abuse, dishonesty and other human shortcomings. It also reflects the approach that treats employees and potential employees as but another part in the assembly line that must be checked before it is used. Tests are notoriously ineffective at the individual or small group level. Only when large numbers are tested and subjected to complicated probability and regression techniques are the results impressive.

When testing the honesty of 1,000 potential employees with a test that is 85 percent accurate, if 200 people test as "dishonest," we can expect that 30 people (15 percent) have been improperly labeled.

What is really important to the employer/employee relationship is the message sent by this testing. Most of the time, as these tests are currently used, the message says: "We have a test you must take and through it we are going to determine if you are good enough to work here. Moreover, we have concluded that theft occurs because of dishonest employees, not because we have failed to provide an opportunity of employment that is sound enough, that rewards our employees enough, that causes them to care about the organization enough that they will be motivated to be as honest, forthright, and committed as they can be."

If testing were truly important, everyone would be tested — but they aren't. There is not a great deal of honesty testing for leaders in government and business. That there is a capacity for dishonesty and theft at these levels, as well at the lower ends of the socioeconomic scale, has been dramatically proven and communicated.

Testing can also be approached from another angle. ***It can be implemented to assist those who are addicted to drugs, to alcohol or are under emotional stress.*** When tests are designed and implemented in this way, the organization and its employees are positively affected.

Testing, as part of an integral part of an intelligent counseling and employee assistance program, can only generate higher levels of confidence, enthusiasm and, as has been proven repeatedly, productivity. This type of testing reflects the emergence of the new social contract.

AIDS

No discussion of testing or the contemporary workplace can avoid the AIDS epidemic and its dangers. By 1990, it is estimated that 10 million Americans will be carriers of AIDS and 100,000 will be stricken with it. While many prefer to believe is limited to the gay community and to drug users, it is not.

As noted in a March 23, 1987 *Business Week* editorial, business "would rather stay out of the AIDS crisis…but with intelligent planning, the nation's corporations have the ability to make an important contribution to alleviating and perhaps overcoming a public health calamity." Already burdened by a host of other responsibilities, this delicate issue is one the corporate community is no better prepared to handle than any other institution.

Some companies have agreed to treat it as any other disease. Others have taken an aggressive educational stance, realizing that the workplace can be as disrupted by fear and ignorance as by the actual disease itself. Most companies are doing little.

Legally, AIDS has been defined as a "protected handicap," preventing employers from firing those who have it. Moreover, mandatory, forced testing has been rejected by those most involved. Recently, the testing issue seems to be moving to the insurance industry, where testing is required for certain policies. For insurance firms, there is an immediate need to understand the extent of the infection and the likely health care liability they, and those they insure, will face.

A Lou Harris Poll conducted for *Business Week* in March 1987 showed that response by corporations has been slow:

- 89 percent have no policy for dealing with employees with AIDS. Of those which do not, only 16 percent believed they should.

- Only 15 percent had even begun an educational campaign, with another 18 percent considering one.

This fits the overall pattern of corporate reponse to these problems. Testing is being implemented or encouraged to a far greater extent than the institution of active programs to assist the employees. A survey in 1986 by *Plastics World* of readers in its industry revealed a frequency of testing for drugs that mirrored the national rates (33 percent) exactly. With one of three firms testing employees, however, only 7 percent reported having an employee assistance program and 11 percent provided counseling or referral services for substance abuse. Compared to the AIDS problems, drug testing, along with constructive and easily available assistance, is a piece of cake.

Outplacement

One of the growing services to buffer organizations against threats of wrongful discharge or simple insensitivity to employee needs, is outplacement. A fledgling industry in 1975, it grew to $35 million in 1980, and by 1987 revenues exceeded $225 million.

Outplacement firms are paid by organizations to help terminated employees find other jobs. With the continuing rash of mergers and acquisitions, the outplacement business has been brisk. The reasons for outsiders handling the delicate task of outplacement include concern that the affected employees be given the best possible assistance; a desire to remain on good terms in case those being released might want to be rehired in the future; and, unfortunately, to minimize the likelihood of law suits and/or legislation requiring expanded layoff compensation obligations.

As change accelerates and organizations find it necessary to move, close a facility, or simply reduce staff size, assisting former employees becomes a major issue. It adds to the rationale for increased use of contracted, leased and temporary employees. It raises the issue of whether we want matters resolved in a cooperative and mutually advantageous manner, whether we want to leave it to the courts, or whether labor unions are a better alternative for the effective representation of employee needs.

Outplacement is another activity which appears to be leading toward contingent relationships between employee and employer. There are already services that recruit for management, that provide temporary or leased employees, and that provide education and training. Adding outplacement to the list creates a dynamic where the organization is not directly involved with employees during the critical periods of hiring, training and releasing. This is a far cry from the two centuries of lifetime employment to which Chairman Richard Heckert of Dupont referred.

Stress

The nation has long believed that people who are injured on the job, and thus prevented from continuing to work, should be compensated for that work-related injury. States have established large workers' compensation funds, and there have been historic settlements regarding large scale exposure to toxic substances, asbestos, and coal dust. Our history is filled with tragic stories of those who have literally worked themselves to death.

Our laws and our systems of workers' compensation, which were enacted at the start of this century, are all derived from the type of injury that occurs when our work is physical. This area, too, is changing and causing confusion, debate and another new set of definitions regarding workers' compensation, disability and disease. Employees now devote mental and emotional effort on behalf of their employers. The conditions of work that affect our performance are those that relate to our mental and emotional health more than to our physical health.

Stress, burnout, anxiety, depression, and other types of injury are emerging, reflecting the new realities and conditions of work. To conform to the challenge of today's new jargon, the stress from working in a high-tech situation is techno-stress. The National Institute for Occupational Safety and Health has placed psychological disorders on its list of leading work-related illnesses and has adopted an objective of reducing stress in high-tech offices.

Stress will remain high for the foreseeable future. Change will not slow down. What is owed to whom, by what part of society, will have to be redefined and that will be a painful process. Emotions will be strained on all sides, and injury will be claimed in the courts. Unfortunately, the law is not a solutionin this case. New forms of cooperation, communication and understanding are solutions. As is true in the other critical factors affecting our worklives, the issue is one of intention and choice. We will either choose to meet the challenges of change with understanding and with a commitment to move beyond current difficulties, or we will choose to go to court.

In many organizations, there is a major commitment to various counseling alternatives and a continuing emphasis on wellness. In others, there is a movement to do even more testing of prospective employees to identify those who are emotionally vulnerable to stress.

In 1985, 15 percent of the 100,000 occupational disease claims filed were of this type, and they are growing at a rate of 30 percent a year. In the U.S. environment where court settlements are high, the claims will rise.

The dramatic rise in the number of cases that have been filed and won by employees should give employers cause for worry. In California, 1,282 mental stress injuries were reported to the workers' compensation board in 1980. By 1984, the number had risen to 4,236.

The potential nuisance and costs associated with a resolution of stress problems in the courts is very high. Some of the recent filings should make this clear:

1. An advertising manager claimed anxiety and depression from being overworked and requested early retirement.

2. A custodian claimed a nervous condition caused by claustrophobia while cleaning a boiler.

3. A guidance counselor claimed severe depression from job pressures and students' criticism of his work.

4. A policeman claimed anxiety and depression because he viewed his job as demeaning.

5. An insurance underwriter claimed a mental breakdown because of an increase in job duties.

These reactions are typical of what happens when the workplace is viewed in the context of historical patterns of employee/employer relationships. The vice president and general counsel of a large organization involved with workers' compensation stated the reason for the increased litigation was the fault of employees: "a new generation of workers who are more prone to stress, or at least more willing to view their emotional problems as compensable injuries, is maturing into the work force."

More constructively, some firms have begun to establish counseling services aimed at helping employees to cope with stress. At the same time, however, pressures to reduce overall costs have led other companies to reduce these services and eliminate insurance benefits for psychological and psychiatric care.

This is a hazy area. It will be difficult for an employer to establish cause, effect, blame and some level of reasonable expectations of performance. Over the coming decade, this will be a growing problem simply because the basic conditions that cause stress will remain.

The Binding Contract

Another major element of the contract relates to the definition and protection of the "rights" of both employee and employer. From the time when employees had no rights at all until the present, this has been an area of constant change and negotiation. The current shift is clearly toward greater rights for the individual. Whether these rights are protected through the agreement between the employee and the employer, or by law and the courts, is the key to much of the current conflict and tension in the workplace.

Workers find themselves suddenly displaced, and reports of corruption, inattention and "bad management" fill the press. There are signs of new strength behind an embryonic employee-rights movement. Dissatisfaction and distrust of management is showing up in polls, surveys, and in the growing volume of court suits. This reflects the decline in union strength as the courts and state legislatures have become the champions of employee rights.

The states are clearly more involved with every aspect of the employee/employer relationship, and Congress is also headed in that direction. Corporate officers everywhere are expressing concern about mandated benefits. A brief list of the areas where laws are under consideration or already on the books makes the concern clear.

- *Employee Rights*
  Right to know laws
  Protection of whistleblowers
  Restrictions on employment-at-will
  Prohibition of mandatory retirement ages
  Plant shutdown notices and severance pay

- *Employee Privacy*
  Privacy acts
  Limits on use of polygraphs
  Access to own personnel files
  Restrictions on employer access to arrest records

- *Safety and Health*
  OSHA
  Federal Mine Safety Act

- *Discrimination*
  Civil Rights Act
  Age Discrimination in Employment Act
  Protection — marital status and sexual orientation

- *Sex Discrimination*
  Equal Pay Act of 1983
  Comparable worth statutes

- *Pensions*
  ERISA
  COBRA

- *Work Conditions*
  Fair Labor Standards Act
  No smoking laws

- *Unionization*
  NLRA
  Railway Labor Act

One of the clearest examples of the struggle to define the employee/employer relationship, and a major cause of litigation and stress, is "employment-at-will." Employment-at-will is the concept that employers have the right to hire and fire at their discretion, with the exception of discriminatory actions or policies. The employment "contract" historically gave the employer the right to hire and fire as an integral part of managing an organization. As society has changed and more power has been given to individuals, this concept has been challenged.

That challenge is simply that management cannot fire by their discretion alone, but that there must be "just cause" for the firing. The argument is that once you are hired, an agreement has been reached. Therefore, if the organization ever made any statement that the employment was "permanent," it is legally bound to keep you employed, unless you were a criminal or negligent.

Until about 1975, there was little concern about this concept because growth and a stable, fairly predictable economy meant most companies and jobs were stable and predictable as well. Layoffs and firings were infrequent and there was general agreement that employers had the right to do what was necessary for the organization to succeed. Since only management possessed the information necessary to evaluate performance, there was no second guessing its decisions.

Management decisions are no longer protected from extensive scrutiny because information on the organization and its performance is widely available. More importantly, vast numbers of employees, who never expected to be fired or laid off, are without the jobs they assumed were permanent.

Increasingly, this challenge is being brought in the courts. In 1980, a new legal interpretation essentially declared that ***any statement in an employee handbook, or verbal statements by corporate officers constitute a contract.*** This means that any statement that declares a corporate commitment to retain employees in difficult times must be maintained, regardless of what transpires. When it does not, an increasing number of fired or laid off employees are going to court, and the evidence suggests major changes in the basic employer/employee contract will occur.

It is estimated that between 5,000 and 10,000 wrongful discharge suits are initiated each year, and the number is growing. In 1983, EEOC agencies at the federal, state and local levels received more than 120,000 complaints. Safeway is facing a $400 million suit from some 250 employees who believed they were told they would be retained, even through takeover attempts. Others facing similar suits are AT&T, TWA, Sears, Caterpillar, and McGraw-Hill.

Many of these suits are coming from those over 40 who have 10 or more years with the company. And there are many of these: 20,000 middle mangers and 500,000 white-collar workers were dismissed in 1986 alone. If the rewards from successful litigation look promising — and a Colorado man was just awarded $19.1 million in an age discrimination suit against Sears, which it is appealing — there will be more suits in the years to come.

Some other recent court actions include:

- *Banas v. Mathews International:* 1984; Pennsylvania, court decides the Employee Manual is part of the employment contract.

- *Khanna v. Microdata Corp.* , California, 1985 court declares a letter sent to a salesman to be an employment contract. Letters offering employment are being submitted in court as implicit contracts to hire, and failure to do so is being tried as mail fraud.

California, New York, Tennessee, Missouri and Massachusetts are considering laws that would make it even more difficult to fire an employee through some form of legislated "just cause" provisions. As one expert said, "Wrongful discharge is more dangerous than medical malpractice, since few insurance companies can sell insurance coverage to protect employers against wrongful discharge lawsuits."

The results can be substantial. It is not simply a matter of being careful about the wording in a letter or a manual. The prospect of litigation and expensive settlements establish an environment where there will be great reluctance for an employee and employer to make any kind of commitment to each other. In fact, there are cautions in the literature that say: *"Never, never say to an employee that the job is steady, guaranteed, long term, permanent or safe."*

Corporations are scrambling to protect themselves from such litigation and many have adopted tough employment drills where applicants sign a form that declares their jobs can be terminated at any time "with or without just cause."

Another of the more interesting developments, and terms, regarding the nature of employer/employee relationships is "headfastening." The flip side of wrongful discharge litigation, it is a company's legal attempt to force employees to stay or, if they leave, to restrict the type of work they do.

The information, knowledge and ideas of each individual are of increasing importance to the organization. Losing an individual no longer means losing a body, but the employee's knowledge as well. Knowledge gained from working for a particular employer remains with the individuals doing the work, the thinking, and the creating. If, somehow, they do not find the personal expression and reward they expect from their abilities and knowledge, they can walk across the street, taking the information and knowledge with them.

This has generated non-compete agreements between employers and their employees. Headfastening consists of a variety of employment contracts with restrictive covenants that are designed to prevent individuals from: 1) joining a competitor, 2) setting up a competitive operation, 3) using confidential information, or 4) leaving, then recruiting the current employer's employees.

These developments demonstrate how simple the old employment contract was. Workers were hired to perform the same set of very specific functions like hundreds of others had been hired, and would be hired, to do. Our workplace procedures, expectations and contractual agreements were generated by this process. As we employ people for their mental, creative and personality characteristics, however, the situation changes dramatically.

The Union Contract

One of the most important parts of employer/employee relationships in America has been associated with labor union contracts. Once a dominant force in industry, the economy and politics, there has been a dramatic decline in the role of organized labor, but it would be a mistake to blindly assume there is no role for unions in the future. Unions flourished because of a need for them, and there are still 17 million union members.

The historic management/labor perspective, which defined the workplace as a battlefield, is deeply entrenched. No matter what your background and working experience, there are powerful stereotypes that describe the other side. To many in management, the unions are corrupt, inflexible, overpaid and lazy. To many union members, management is greedy, inflexible, overpaid and lazy.

These ideas reflect two centuries of history, and as many years of studying industrial economies. Labor unions were vital participants and contributors to the American economy. They grew and prospered for essentially the same reasons as General Motors, General Electric, Bank of America, the American Medical Association, Harvard Business School, and the Democratic Party. To survive into the next century, they all must adapt to a radically different economy, or they will disappear. If they do adapt and provide needed services, they can also prosper.

Unions prospered in the past because individual workers needed a way to pursue their wants and rights within the total work environment. Since there were thousands of individuals working under essentially the same conditions for the same pay, their needs were the same. Collective bargaining evolved to ensure the labor force received its legitimate share.

Over the last 20 years, however, the economic characteristics that favored labor unions have been changing. Consequently, labor unions no longer represent the majority of American workers. From a high of nearly 55 percent in the Fifties, fewer than 19 percent of today's workers belong to a union. The United Autoworkers and the United Steelworkers once represented nearly 700,000 workers each. By 1990, if current trends continue, they will represent less than 200,000 each. The reasons for this are intimately tied to the fate of the industries and firms that prospered during that earlier period.

From 1979 through 1986, U.S. labor unions were forced to make major changes. Accustomed to continuing increases in wages and/or benefits at each contract negotiation, the unions found themselves accepting takebacks and other forms of wage and benefit decreases. Their firms and industries were in trouble. Regaining competitive strength required major reductions in cost and changes in technology and work rules. With traditional factory jobs being lost at a rate of more than 25,000 per month, it was clear an adjustment had to be made.

The magnitude of the decline in union workers can be seen in the following charts that depict the average annual increase in union settlements and the number of union members affected by pay concessions from 1979 through 1986.

ANNUAL UNION SETTLEMENTS

Year	Wage/Benefit Increase	Number Accepting Concessions
79	9.0%	0
80	10.0%	0
81	9.5%	119,000
82	7.0%	33,000
83	4.0%	403,000
84	3.5%	92,400
85	3.0%	66,000
86	2.0%	n/a

The two concepts that have most stymied progressive change in the labor movement are job security and work rules. They were originally pursued by the unions as a useful buffer against frivolous work force reductions and overly demanding expectations caused by technological or economic change. They are no longer constructive. Things are changing too fast for a particular job to have any economic relevance for more than five to 10 years. Neither the organization nor the individual employee gains from artificial attempts to eternalize a job in this environment.

We will all need reliable sources of information about developments in our fields. New materials, new skills, new equipment and procedures all must be carefully followed. The places and conditions of employment must be tracked and evaluated for opportunities. Like the old union hall, computer-based networks representing specific skills and professions may dominate the on-going transaction between employers and employees. There is a role in this for unions.

It appears that the remnants of our industrial unions are pursuing a new means of employee representation and assistance. By becoming the single best source of information, training, standards and individuals for specific skills and talents, unions have potential value for employees and employers alike. A reconstituted set of guilds is imaginable, representing their members, not with specific managements, but within the economic and social system itself.

In this new mode, the unions can take the constructive stride toward those activities and programs that ensure employment security for their members. Our prior notions of job security are clearly non-productive. Specific jobs will continue to emerge and disappear at increasing speed. The social and economic need for individuals with the skills and knowledge needed to accomplish new and emerging tasks, however, will always be high. Developing the programs and policies that lead toward higher probabilities of employment security will concern employers, governments and individuals, as well.

The changes underway and the opportunities for the unions are not lost on their leaders. Glenn Watts, president of the Communications Workers of America (CWA), has spearheaded the beginnings of a hard self-examination by organized labor. CWA launched the first major study of the impact of the changes on the union movement in 1981, concluding in 1983 that "the still-evolving Information Age holds both promise and peril for American workers." Later that year, Watts wrote:

> "Successful unions of the future will have to present a fresh image, offer new kinds of services to the members and portray a willingness to enter into new alliances for the collective benefits of their members. And the union of the future will need to be more innovative and experimental. In many instances, union growth will be directly related to union flexibility.
>
> In the 21st century, a growth-oriented union will probably have some sort of nationwide network of service centers that offers legal, clinical and counseling services for its members, as well as day care assistance and other community services." ("Work in the 21st Century," p. 99)

For more than five years, the AFL-CIO has been examining the shifting nature of work, and has published two significant documents that begin to point the way to revitalized union participation in the economy. In August 1983 it released a report called "The Future of Work," detailing the impact and the challenge of a service economy, of microprocessors, and of robotics. In 1985, it released a second report, "The Changing Situation of Workers and Their Unions."

Together, these two documents represent a hard, detailed look at the changes unions must consider in their own approaches to the needs of workers and to the workplace of the future. As noted in later reports, they have a long and solid history appropriate for assisting in the current workplace environment:

> "Since its earliest days the labor movement has sought to improve the quality of worklife, create workplace democracy and participate in joint employer-employee decision making — long before these approaches became fashionable.
>
> We understand that confrontation and conflict are wasteful and that a cooperative approach to solving shared present and future problems is desirable."

The reports present the magnitude of the changes underway as follows:

> "The United States — indeed, every industrialized nation — is undergoing a scientific, technological, economic revolution every bit as significant as the industrial revolution of the 19th century. There is now a world economy in which workers in underdeveloped nations, working at subsistence wages, are producing the most sophisticated goods, and even services, for more developed nations. Technological advances have eliminated scores of jobs, altered the requirements of an equal number and created entirely new jobs. The success of the labor movement in improving wages and working conditions has had its effect on what workers see as their right, on what workers seek in further improvement and on what employers recognize as the minimum conditions they must offer . . . We are confident that the labor movement has the capacity to continue the never-ending process of renewal and regeneration that has enabled and will enable unions to remain the authentic voice of workers and their chosen vehicle for expressing their will."

All the current changes could easily create a situation in which it is much more effective to negotiate with a union than face the insanity of costly, complex legal remedies regarding the employee-employer relationship.

Two developments now underway can help restructure the traditional relationship between employers and unions. One creates a closer, more open relationship, such as that underway within the automobile industry. As the result of collective bargaining agreements

148

in 1982 and 1984, there are large union/company education and training centers such as the GM-UAW Human Resource Center in Troy, Michigan.

A special program called Paid Educational Leave brings union members to one-to-four week seminars presented by union officials, academicians, corporate officals and economists that describe the changing economy, the impact on the automotive industry, on General Motors, and implications for the future. The response to these seminars has been very positive, and has demonstrated that union members are capable of understanding the situation and willing to help resolve it.

These sessions make clear to all concerned that the typical union members, like the typical manufacturing employees have changed. They are smarter and more aware of the changing economy, and the competitive pressures on their firm, their industry and the nation. Their tasks require increased intelligence and responsibility, and their performance is vital to the overall health and success of their industry.

If the pragmatic demands of rekindling a vibrant economy through the cooperation of all involved does not bring about new labor/management relations, perhaps the significant financial power of the unions will. The labor union pension funds in the United States represent billions of dollars, and they are beginning to move toward more activist positions in their investment policies.

Unions are beginning to use their human, financial and legal resources to alter the balance in takeover battles. They may even end up moving toward large-scale employee-ownership through outright acquisition of their companies. While there are many stories of successful turnarounds when employees have bought ailing individual plants or divisions, the new stakes are edging higher.

As part of takeback agreements, unions are placing *payback* provisions in contracts. This changes the bidding because it means that in the event of a sale, the union's takeback is returned. The agreement basically says the union will take a cut in pay or benefits because it is willing to accept a stake in the future of the company. If management or the stockholders want to sell that company, these agreements repay the union for their earlier sacrifice.

The situation is becoming even more aggressive, however, as unions consider entering the merger arena on the company's behalf. In

1986, four Eastern Airline unions joined in a bid for the airline when it was under pressure from an outside raider. The United Steelworkers have pursued employee buyouts and retained Lazard Freres, the investment bankers, to help evaluate buyout opportunities. The UAW and the Steelworkers made a nearly $500 million bid for Robertshaw Controls in which both unions had members, but lost to a British company. There are moves on Wall Street to establish a special union financed fund, designed to seek for and support employee buyouts.

Summary

In the future, it is likely that the contracts governing work will be more individualized and, therefore, more diverse than in the past. Organizations will be in a constant state of flux, employing individuals and groups in a variety of ways, from permanent full time and part-time simple short-term contracts. Individuals will move from one form of contract to another as their opportunities change and their needs change.

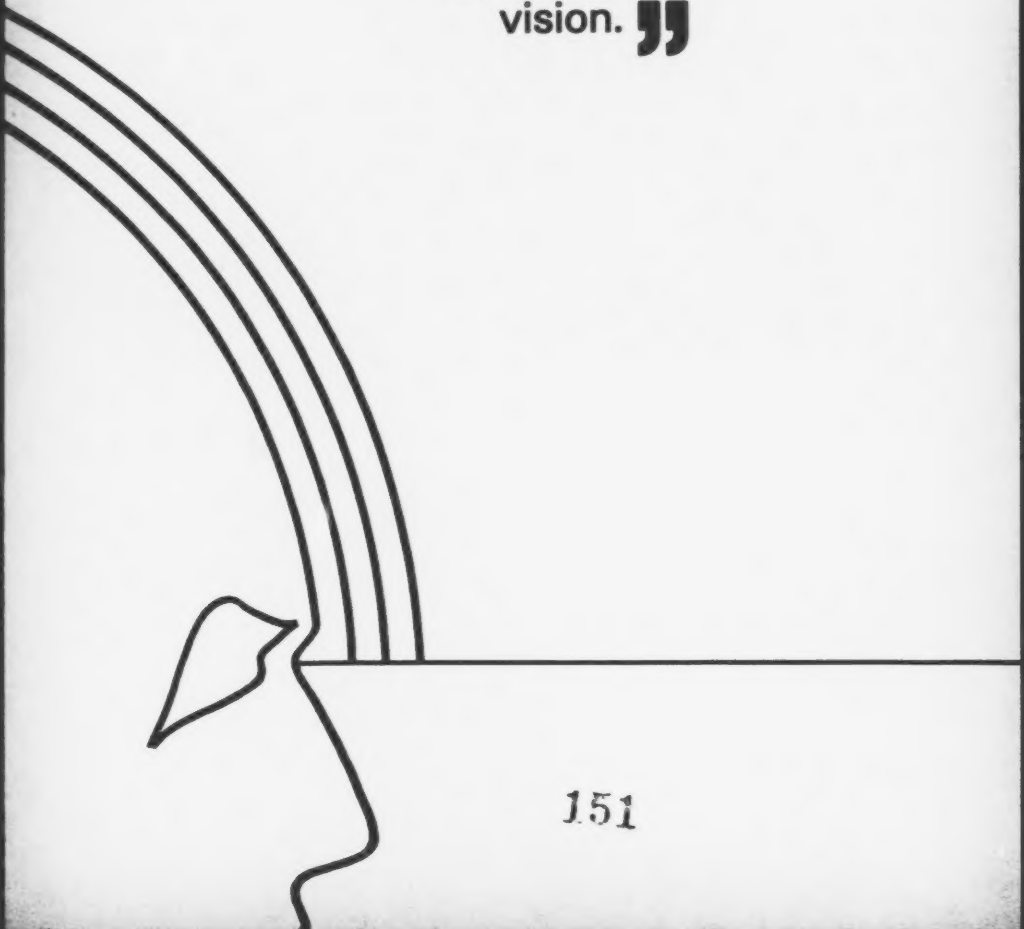
The exciting possibility is for a more equitable, open and legitimate set of expectations and contracts to govern them. Legitimate concern and caring for employees as individuals, as part of a team formed to accomplish a task or build a product, will enable these new contracts to take shape in a manner that benefits both employee and employer.

The real danger is that the shorter term relationships will encourage a lower level of concern by the employer for the employee. This danger, however, is lessened by the increasing independence and self-reliance of individuals in the work force. Essentially working for themselves, they will be better able to negotiate a "fair exchange" for their services and be less dependent upon some organization to guide, manage and support their personal and career needs.

As with many other aspects of the changes with which we must deal, the key to a successful rewriting of the contract lies in the ability to adjust and correct our expectations regarding the rights, responsibilities, guarantees and obligations associated with employment. Unrealistic expectations and assumptions about these things can only lead to more bitterness, disappoinments and poor decisions, by both the employee and the employer.

CHAPTER 9

> “The workplace of the future requires new forms of leadership and vision.”



CHAPTER 9

Management and Leadership: New Models are Needed

For most of the 20th century, American management has been almost universally admired. Aspiring leaders from around the globe have traveled to the United States to study in its management schools. Management science has been a major American product.

Today, this once well-deserved reputation is in question. American industry has not maintained the level of international dominance that seemed insurmountable 25 years ago. Once dominated by American products, domestic and foreign markets have been deeply penetrated by products manufactured by foreign firms. Productivity has been stagnant for more than a decade and American product quality has slipped. Employee confidence is badly shaken and entire industries are in trouble.

The challenge to American management over the next 25 years is tremendous. Nothing less than an entirely new set of skills and methods will do.

Built between 1900 and 1970, American systems of management, labor and government adhered to organizing principles — often called scientific management — where tasks were simplified, ordered according to pre-established rules, and carefully monitored. It worked. High volume, scientifically managed industry produced growing numbers of standardized goods and generated vast wealth.

Our ideas and models of leadership and management have been based upon this 70 years of experience. But what made sense 50 years ago no longer fits. New forms of leadership and management that will work in an information and knowledge-based economic environment are needed.

Several years ago, Konosuke Matsushita, chairman of Matsushita Electric Industrial Company (known to most as Panasonic) offered a penetrating assessment of the challenge facing American ideas of management. Speaking to a group of visiting American business leaders in Tokyo in 1979 he said:

> "We are going to win and the industrial West is going to lose out. There is nothing much you can do about it because the reasons for your failures are within yourselves.
>
> Your firms are built on the Taylor Model, even worse, so are your heads. With your workers doing the thinking while the workers wield the screwdrivers, you're convinced deep down that this is the right way to run a business.
>
> We are beyond the Taylor Model. Business, we know, is now so complex, the survival of the firm so hazardous in an environment increasingly unpredictable, competitive and fraught with danger that their continued existence depends on the day-to-day mobilization of every ounce of intelligence.
>
> For us, the core of management is precisely this art of mobilizing and pulling together the intellectual resources of all employees in the service of the firm. Because we have examined better than you the scope of the new economic and technological challenges, we know that a handful of technocrats, no matter how brilliant and smart they may be, is no longer enough to take them up with a real chance of success.
>
> Only by drawing on the combined brainpower of all its employees can a firm face up to the turbulence and constraints of today's environment. This is why our large firms give their employees three to four times more training than yours. This is why they foster within the firm such intensive communications and constantly seek everyone's suggestions, and why they demand from the educational system increasing numbers of specialists, as well as bright and well-educated generalists, because these people are the lifeblood of industry."

Much has been written about the management techniques required to meet current challenges in the global economy. There has been a growing chorus of agreement that change must be made. But full acceptance of the required change has been avoided. While corporate leaders call for new forms of organization, for the most part, however, their actions are not new. They are, instead, slight adjustments within a management structure that remains just as it was in 1955.

The issue is a "state of mind," or belief about people, organizations and leadership. We must change that basic belief. We must let go of concepts and behaviors that we know are no longer appropriate.

The new concepts of organization and management can best be visualized through the following charts, which illustrate just how dramatic the needed changes are.

Organization

INDUSTRIAL/PHYSICS MODEL	INFORMATION/BIOLOGY MODEL
1. Defined by its structure, functions, boundaries. Free-standing, stable and independent.	1. Fluid, dynamically stable, always chnaging with its environment.
2. Organized by its leaders, managers.	2. Self-organizing to a large degree.
3. Rigid structure.	3. Changeable structure evolving from the past.
4. Independent parts analyzed on their own merits.	4. Much interaction, sometimes in counter-intuitive ways.
5. Actions occur as cause and effect.	5. Changes occur from interactive effects of positive and negative feedback.
6. Relationships within are firm and fixed.	6. Relationships unclear, always in flux until consciously changed.
7. Competitive internally and externally.	7. Goal-oriented, caring, collaborative.

INDUSTRIAL/PHYSICS MODEL	INFORMATION/BIOLOGY MODEL
Management	
1. Exercised through command, authoritarian.	1. Exercised by responsibility, example.
2. Accomplished through formal rules, roles and procedures.	2. Accomplished through mutual learning, purpose, communication of vision and culture.
3. Emphasis on power and authority.	3. Emphasis on information and performance.
4. Communication is one-way, top to bottom.	4. Communication is open, multi-directional.
5. Focus on problems, error prevention.	5. Focus on opportunities, learn from errors.
6. Low tolerance for ambiguity.	6. Accepts ambiguity, change, uncertainty.
Planning	
1. Simulation of future through continuous-function computer models.	1. Analysis of future through study of current discontinuities.
2. Organization is detached from environment.	2. Organization is a part of the environment and responsible for second and third order effects.

Changes based on this new idea management are underway in some organizations. Whether they will occur quickly enough to meet the exciting opportunities ahead remains to be seen. The challenge is to build the flexible systems and organizations needed to ***solve new problems, which is more important than making routine the solution of old ones.*** This means that traditional heirarchies must disappear. Effective response to change and the creation of flexible organizations is only possible if information and decision-making are widely shared. Heirarchies stifle information and communication flows. ***There is no heirarchy of problem solving: solutions can come from anyone, anywhere, at any time.***

One of the reasons the Japanese and Korean styles of management have been successful is that they involve continuous, substantive communication between all levels of the organization. "Consensus management" best describes an open flow of information within an environment dedicated to economic success, enabling all participants to understand the perspective, the needs and the capabilities each adds to the mix.

Many efforts to duplicate participative management techniques in American corporations have failed because the effective ***systems of flexible organization and production utilized in Japan cannot be grafted successfully onto business organizations designed for the production of standardized goods.*** They require an organization designed for change and adaptability. They require an end to management techniques that call for a radical distinction between those who plan work and those who execute it.

Management Reform — Wall Street Style

Unfortunately, the need for major changes in leadership has resulted in a torrent of mergers, acquisitions, raids, and divestitures. The media, reporting on the issues and developments within the business community, does not present a picture of exciting, confident and visionary leadership moving America toward management and organization innovation.

No wonder people view the economy, industry, management and their own employment with cynicism and doubt. Wall Street and the investment bankers have provided enough excitement and drama to grab the attention of even the least interested. In 1986, there were more than 4,000 deals made worth $190 billion. That is more than 10 a day, representing more than half a billion dollars a day, and 1987 is matching 1986.

American top management seems driven almost entirely by this drama and the competitive battles associated with these multi-billion dollar transactions. Raiders are fended off by "white knights." Friendly and unfriendly takeovers send former executives scurrying for "golden parachutes." Junk bonds and other forms of creative financing create a game of unbelievably high-stakes with arbitrageurs taking bets on the side. Exciting? Yes. The most productive or the best use of our managerial talent? Hardly.

Where the debate is between management and the shareholders, this activity is cloaked in terms of management reform. Both sides in this debate call the other insensitive to the real needs and concerns of customers and employees. And while the rhetoric attempts to project an image of intransigent management teams compelled to more productive action by the shareholders, what is really taking place is a political and economic battle among a limited number of very large organizations.

What we are ignoring are the powerful signals that are being sent by these activities and this constant shuffling and reshuffling of ownership to employees and the marketplace. The priorities and the attention of corporate leadership are clear — and it is not for the urgent search for higher productivity, greater flexibility, or a striving for quality performance or "excellence."

Role Models for the Role Models

The idols of top American executives and business reporters today are on Wall Street, not on the factory floor, or in the customer's office, or meeting with suppliers. The dominant role model of leadership and management is still driven by the ideas and the dynamics of an earlier time. It rests on the belief that change comes from the top, that the best and the brightest will select, articulate and successfully pursue the new opportunities. Leadership, it seems, rests in making hard decisions and then issuing detailed instructions for achieving selected goals. Supported by computer-based, scientific models of economies, markets and industries, the bulk of American leadership deals with the strategies and tactics of paper entrepreneurship.

In 1987, *The Wall Street Journal* surveyed 351 chief executive officers from *Fortune* 500 industrial and service companies for their opinions about which corporate leaders will be most admired in the year 2037. Their choices reflect a strong bias toward leadership as a trait of the traditional president of our largest organizations. Fifty years from now, according to the CEOs, it will be the power brokers and those who built the empires of the last 30 years who will be admired.

Those selected most often were:

1. Lee Iacocca
2. Thomas Watson Jr.
3. Henry Ford
4. Alfred Sloan
5. H. Ross Perot
6. Walter Wriston
7. Thomas Edison
8. Andrew Carnegie and J.P. Morgan
10. David Packard
11. Peter Drucker and Reginald Jones
13. Paul Volker
14. John D. Rockefeller

That the CEOs attribute no historic importance to the efforts, visions or leadership from the newer organizations, the younger people, the smaller organizations, minorities or women, is fascinating. There is no sense of global interdependency. There is no sense of the excitement coming over the next 50 years because of things done recently. There is a clear sense that greatness is really something that existed in the industrial past.

A few mentioned Frederick Smith of Federal Express, Steven Jobs of Apple, and Bob Swanson of Genentech, but, in general, these people were dismissed by the CEOs. Steven Jobs, for example, has consistently been considered by established corporate leadership and the business media as a flash in the pan or a children's crusader, some kind of cult leader. Bill Gates of Microsoft and Mitch Kapor of Lotus did not make the list. Foreigners seem not to matter, either, as only one person mentioned Konosuke Matsushita and Akio Morita of Sony.

One of the members of the list, H. Ross Perot, has a different perspective on corporate leadership and is outspoken enough to tell the emperor he is without clothes:

> "Is it possible to save our big companies? Sure, it's the easiest thing in the world. All we've got to have is a little leadership. Absolutely, there is a vacuum in corporate America right now, a horrible leadership vacuum. We're turning out very bright, very able people who could have been incredible leaders, but they are manipulators, numbers guys, merger-and-acquisition guys. They destroy tens of thousands of jobs. Now we've

> got to change the emphasis, which we can do, and put it on leadership and building and making our companies competitive." (H. Ross Perot, EDS, 1987)

Our business leaders have come to believe that the results of complex manipulations of paper, ownership, debt, junk bonds, leveraged buyouts, etc., are their primary responsibility. Here may lie the root cause of American economic and manufacturing weakness. As a nation, we have our sights set on goals and achievements that stimluate only a few. We have taken the notion of shareholder ownership to be the end rather than the means of production.

While the battle lines over price/earning ratios are drawn and mobilize those on Wall Street to action, this does little for those in the workplace. ***Return on investment and price/earning ratios cannot mobilize a work force.*** The goal is abstract and has little connection to individual employee efforts. Unless there has been a new organizational recognition that stimulating the level of enthusiasm and commitment of people is critical to future success, a continuing cry for higher profit, or more sales or higher ROI will not yield the desired results. Until this is understood, the real challenges of improved quality and excellence will be difficult to meet.

Making the Change

What needs to be done is no mystery. The new ideas of management and leadership have been well articulated by many, but none so clearly as Peters and Waterman in their book, "In Search of Excellence," which is one of those rare, seminal works that will probably be more appreciated in 1995 than when it was first published. Its own extraordinary success made it appear to be pop literature, but its main points regarding management and leadership in today's environment are so correct that three of the most basic concepts will be turned to repeatedly in the coming years, and are worthy of review.

1. A Bias for Action: Like other important statements, this appears obvious and simple-minded, but is not. It refutes directly the efficacy of management practices in which executives and staff study, analyze, discuss, meet and report. It suggests involvement and active attempts to change and improve. ***It defines conditions in which managers are out of their offices and conference rooms seeking opportunities or helping to solve problems.***

This principle is one of many that is endorsed in rhetoric more than in behavior. A real bias for action changes some fundamental ground rules and expectations regarding the roles and responsibilities of managers. ***Action is risky because it generates direct and unqualified feedback.*** It requires the personality and courage required to face change and learn from it. And adopted within the organization as a whole, it encourages others in the organization to act, to try, to do. As this happens, prior systems of power and control are violated and many managers are unprepared to relinquish their prerogative to determine how, when and where others should act.

2. Close to the Customer: While it is easy to state and easy to agree with, what ***being close to the customer really means is that there is serious respect for the customer and a sincere desire and enthusiasm to serve.*** It means recognizing that the new economy is no longer producer-driven but consumer-driven. Done continuously, this creates the need for sound information about the marketplace. The only place to obtain reliable information about the key shifts in the needs and expectations of the marketplace is from the customers and the employees who work most directly with them.

Like many of the other changes that have to be made, ***being truly close to the customer requires a belief that the customer is intelligent, aware and capable.*** People are increasingly enlightened about the purchase. They will find out which products and which organizations are working to meet their needs and which are not. Increasingly, they will shift their loyalties to companies which treat them with sincere respect and concern.

In short, excellence comes from being close to the customer, not close to the stockholder.

3. Management by Walking Around: Another deceptively simple premise, but one that strikes at the heart of management practices from the past. This aspect of excellence does not mean walking around the office. It means management by being there; being ***with*** others in the organization, being an active and enthusiastic part of the team. ***It is difficult for many to adopt because it removes executives from the sanctuary of the executive suite and puts them where their people are.***

The bottom line of management by walking around is the elimination of artifical barriers that have been erected to separate managers from the rest of the employees in the organization. It no longer is possible to compete effectively by managing in the abstract, that is, by managing numbers, data, policies, etc. The new leadership requires actual engagement with the work force and executive dining rooms, special parking privileges, and other perquisites no longer fit the model of a modern competitive organization.

Six years after Mr.Matsushita made his provocative statements regarding American management and its future, Roger Smith, the chairman of General Motors, wrote an article in *The Futurist* magazine, which said, in part:

> "In an era of perpetual change, even long-term strategies must be flexible. They must adapt to ***new trends and changing conditions if they are to succeed...One thing we've discovered, in almost every instance, is that people are a bigger part of the automation equation than anybody could have predicted.*** And much more upfront education and training of people will be required to meet the higher levels of automation. The joint training centers we've established with the United Auto Workers and the educational programs set up at our plants and in community colleges have only begun to scratch the surface.
>
> It's my own personal belief that with automation we may even have labor shortages — especially of trained people...
>
> ***Business must invent a whole new concept of itself. It must see itself as not landbound by tradition and predetermined plans but rather flowing with the river of change.*** It must work with nature, not against it. It must make progress by changing the very essence of the enterprise, by creating new opportunities, and by creating its own future...
>
> We developed a strategy to make General Motors a 21st century corporation. We saw that we needed to create a climate where employees felt free to contribute their knowledge and skills. We needed to build a structure that fostered teamwork, innovation and entrepreneurship. We

> wanted our corporate structure to encourage people to do what needed to be done and to do it on their own." (Roger Smith, *The Futurist*, Nov-Dec 1986) (emphasis added)

Another aspect of excellent management and leadership advocated by Peters is *passion* and he exudes it when he speaks. It is no wonder that serious executives have trouble with the new management needs. Passion brings management and leadership into the realm of the emotional and out of the tightly controlled, highly analytical and dispassionate characteristics of the "organization man" of the past. Passion is not a subject studied at graduate schools of business; rather, it is classified as a detriment to sound management.

It is this passion, the beauty of excellence under fire, that causes so many to be enamored of professional athletes. As individuals and as teams, professional athletes are forced to pursue their jobs in direct view of thousands and sometimes millions of people. There is no doubt about their performance. There is no way to hide a mistake. There is no avoiding a relentless demand to excel.

The professional sports team may provide us with the best model of the new organization, new management and leadership skills, and new dynamics of worklife. Having developed superior skills in some aspect of a particular sport through years of dedication and hard work, individuals are hired on short-term contract to form a team with other individuals. At all times, the individuals work for themselves, even though their concerns become part of a team capable of winning the contests they enter. The coach must find ways to blend individual skills, personalities and ambitions into a smooth unit. He or she must find ways to motivate and inspire the individuals and the team to work at the highest possible levels of commitment and energy. Each player must be so deeply a part of the team and of the total effort that each constantly strives to contribute his or her best.

When they achieve the highest levels of success, the players and the coaches receive bonuses. They receive adulation from the public and the respect of their peers, and they gain bargaining power for the next contract.

Organizational State of Mind

Within any work force there are three basic attitudes guaranteed to generate low morale, low productivity and an inability to compete effectively in the modern business environment. They are attitudes that are developed, in part, by the broad assumptions about work but are shaped primarily by the management and culture of the organization itself.

The three attitudes that guarantee failure are:

1. *To believe that we work for someone else*
2. *To believe that there is a result that is good enough*
3. *To believe that there is some needed effort that is not my job*

Together, these beliefs destroy the potential for greatness in an individual, a group, an organization, or a country. Today the challenge is to combine the very best knowledge, insight and wisdom we can muster to constantly improve. We can only achieve this if we are driven personally to accomplish new levels of performance. ***Attempting to solve a puzzle because we have been told to produces very different results than attempting to solve a puzzle because we personally feel challenged to do so.*** It is easy to tell others to work faster or harder. Harder and faster are simply mechanical responses. We cannot force someone to work smarter, or more creatively, or more passionately. That comes from inside.

We know that our opportunities and our personal progress now depend on our competence and our continuing improvements in knowledge and skill. If we think we work for someone else, then we will wait for their instructions. We will take no initiative and have no particular concern for our results. Such an attitude places control over our lives and our futures in someone else's hands rather than our own.

"I am the company" or the hospital, the university, or the Congress is a feeling that must be engendered in all employees. As we interact with others as representatives of a group, they view the group through us. They judge the competence, value and level of concern of the whole organization through our behavior.

This is the dilemma for today's manager. ***The most important parts of every employee's contribution to the goals of the organization are increasingly at his or her discretion.*** The tasks can no longer be engineered because each situation, each customer, each patient and each problem are unique. The best solution is one that comes from employing the best of individual wit, energy and enthusiasm to the task at hand.

In an economy dominated by service, it is the manner in which the service is delivered that is important. The operational tasks of an insurance agent, sales clerk, repairman, stock broker, computer analyst, or teacher are not all that different from one organization to the next. What is different is the level of energy, enthusiasm, concern, and attentiveness that the individual performing the task applies to it. These come from within, and those who excel have a legitimate, ongoing commitment to be the very best he or she can.

There is a natural high in attaining difficult goals and participating in high quality performance. When we cannot find these experiences in our worklives, we pursue them elsewhere. We seek them in hang-gliding, skiing, aerobics, rock-climbing, rugby, soccer, tennis, running, painting, or acting.

The secret to successful organizations is the ability to create this experience more frequently at work — not because this is a nice thing to do for people, but because it defines the expectations of customers, employees and others who interact with us.

As soon as someone says that's not my job, or that's good enough, the entire organization suffers. The message simply states lack of concern and personal involvement with what is going on. It says I am here to get a paycheck and that is all. It says the organization has failed to create a situation that compels me to put forth my best efforts. It says as employees, we are still part of the machinery.

> "Leading, not managing, is the best way to build a successful organization...Our products, processes and plants are relatively simple. Therefore, what makes the difference for us is the leadership at all levels which enables people to maximize their contribution.
>
> The transformational leader commits people to act, converts followers to leaders, and enables people to achieve more than what they even thought possible. The transformational leader has three basic focuses:
>
> 1. To create a vision and an environment where new ideas are rewarded...This means encouraging free and open dialogue about the organization, its potential and exactly how it can achieve those goals.

> 2. Mobilizing commitment to the vision — which also requires open communication.
>
> 3. Institutionalizing the vision to create freedom for people to do things on their own. Controlling people with a detailed management-by-objective approach to achievement is likely to get from people only what they are asked for and not everything they are capable of achieving.
>
> The culture that works for us at PepsiCo focuses on innovation, persistence, prudent risk-taking, individual achievement in a small-company environment and, above all, a commitment to growth." (Wayne Calloway, CEO, Pepsico; *The Conference Board Bulletin*, February 1987)

Unfortunately, in the real world it is much easier to keep doing what we are doing than to create an environment that fosters change, new decision-making criteria and high degress of uncertainty. We were trained to manage and control operations that are repetitive, predictable and easy to measure. We were taught that it is important to reduce risk, to standardize things, and maximize the return on costs — to exploit existing assets. The change that is being demanded is a big one.

Recently, a fullpage NAVISTAR advertisement articulated the real challenge the current changes represent:

> "Change is frightening. It can paralyze powerful executives.
> It can cause entire organizations to drag their corporate feet.
> It's the stuff sleepless nights are made of.
> Not long ago, International Harvester was in the shadow of an even more frightening prospect.
> The reaper was already at our doorstep. We had to change. Or else.
> We had to streamline operations. Greatly improve productivity. And find new ways to compete.
> The fact that you're reading this today is testimony to how well our people rally to change.
> We consolidated facilities. Eliminated five levels of bureaucracy. Doubled manufacturing productivity. Cut inventory by two-thirds. And orchestrated the largest private debt restructuring in history.
> An old company, set in its ways, changed. And was reborn as Navistar International Corporation.

> In doing so we learned a lesson.
> Change is not a nemesis. It is vital to our organization. To any organization.
> Properly managed, change is progress. It's the road to improved quality and to new products that will help our customers meet their changing needs.
> It's a competitive edge. Change helps us further strengthen our number one position.
> Yet we know we must never change merely for the sake of change. Change is not a goal.
> It is the means to a goal. Today we're still changing.
> We're growing. Improving. And finding better ways to serve our customers.
> Change, however, still keeps us awake at night.
> But these days it's because we're dreaming of new ways to accomplish it.
> (NAVISTAR, "The Rebirth of International Harvester," *Fortune*, August 6, 1986)

Managing Hearts and Minds

The difference between the industrial forms of management and leadership and the forms needed for the future is simple: ***The traditional responsibility was for the management and control of things. The new responsibilities are for the management of hearts and minds.***

The challenge for all organizations is to gain the attention, trust, enthusiasm and commitment of their stakeholders. It is no longer adequate to assemble, organize and manage capital, raw materials and a work force within a tightly defined system of production. Anyone can do that. What is required now is the ability to convince employees, suppliers, investors and customers that the organization is dedicated to providing the best possible service, and there is sustained and legitmate concern for the interests and needs of the others.

We know how to create work environments of creativity, innovation and enthusiasm. The benefits are obvious and the need is great. We do not do it, however, because it is difficult and because it destroys traditional relationships within the organization. We must integrate skills, energies and individual contributions into the organization that will allow it to absorb shocks and to exploit opportunity. What most often prevents us are the holdovers of the industrial, competitive, win/

lose, adversarial environment; that is, the class distinctions:

- labor/management
- hourly/salaried
- thinkers/doers
- headquarters/field

Unity and cooperation keep an organization constantly moving toward a common purpose. Constant change, the need for innovation, intense competition require that the organization be able to respond quickly and efficiently to new circumstance unhindered by administrative, cultural, organizational or bureaucratic barriers. "That's not my job" will kill unity.

Management theory and practice has been dominated by a frenzied search for technique. Driven by the extraordinary opportunities associated with maximum efficiency in mass production settings, we have missed the contributions of soul and spirit. The evidence is overwhelmimg that it is precisely this aspect of human interaction that will form the backbone of work and of organizations in the future.

We have also seen how the the reduction in levels or the flattening of the organization can bring dramatic results when examining the new advanced manufacturing operations (Chapter 5). When the barriers and artificial arrangements of position and responsibility are discarded, job classifications can drop from 200 to 34 or, as in one automotive component plant, to three. Another engine manufacturing plant has just two classifications: "resources" and "technicians."

The reduction in individual job classification does not mean the tasks have been eliminated. It means that the tasks of the existing employees have been expanded, as individuals and as teams. The interesting change here is the explicit recognition that the same individuals who previously were only responsible for one very specialized task — and assumed to be capable of little more — handled many more tasks.

Management in the Open

The arrival of the information age is creating difficulty for long-held traditions and behaviors in management. Accustomed to making decisions based on information unavailable to others and possessing far greater understanding of a business or product than their customers, regulators or competitors, managers were granted a certain immunity from poor, foolish or manipulative actions.

No more. As information technologies have expanded, many have access to the information that was restricted to the few. More importantly, they understand it. Few enjoy this new situation; fewer still admit it with the frankness of George Ball, chairman and chief executive officer of Prudential-Bache Securities in a 1986 speech in Irving, Texas. He said CEOs do not like the new information technology because it "removes uncertainty, eliminates opportunities to create alibis and permits customers to find out what we are doing wrong". Also, "it lifts the veils of obfuscation that permit over-pricing, and it destroys barriers to competition."

After reminding everyone that this was said tongue in cheek, Ball went on to say :

> ***"The availability of information has changed things permanently.*** We can no longer hoodwink people simply because they don't know things. Our business — the financial service business — is probably the first either to benefit or to be altered by that. Unfortunately, we can't turn the clock back. Since an informed customer is our worst customer, our only hope for maintaining profits and profit margins is to harness technology so that we can do things better, smarter, and faster." (emphasis added)

In short, all organizations and their managers must accept and grow accustomed to management in the open. This new willingness to share information regarding the organization and its decisions is vital to an organization's future success for several reasons. First, as we have repeatedly seen, open internal flows of information are necessary to stimulate the innovation, trust and loyalty required of modern organizations. Second, and equally important, management in the open assumes that decisions are honest, ethical and caring of the communities being served by the organization. It implies that an organization means what it says and that customers, employees and others can trust it.

This aspect of modern management is important because organizations that are competing for stakeholders' trust and commitment must maintain credibility at all times. Any action or decision that violates that image can do irreparable damage. One major error, or a series of poor decisions can tarnish a valuable corporate asset — image — almost immediately.

The kind of press coverage an organization gets regarding its activities creates its image. For example, the following appeared in *Business Week* in January 1987:

> "EF Hutton announced late on January 9 that it would end 1986 with a substantial loss largely because it must compensate bond customers the company has misled in years past. Ever since the firm pleaded guilty in May, 1985, to 2,000 counts of fraud stemming from a check-kiting scheme, Hutton has been plagued by poor morale and declining earnings."

The final sentence of that story is important over the long term. The greatest damage to an organization from sudden revelations of poor judgement or illegal activity is the impact on the work force. Assuming the organization has worked hard to build the trust, loyalty and pride of those within it, anything that damages the credibility of the organization destroys the rationale for that loyalty and commitment.

There is a new level of attention being paid to corporate ethics manuals, policies and statements as recognition of the credibility problem grows. The issue is rapidly gaining the attention of the media, and the credibility of business is slipping.

Ethics

There are many practical concerns associated with the ethical behavior of business organizations that should make operating at the highest standards of behavior strategically sound. If society does not trust its business institutions there will be a resurgence of federal and state regulation. Since the business community has long argued that its productivity and profitability are hindered by government regulation, it is in everyone's best interest that executives choose the most ethical behavior possible.

Those organizations best able to demonstrate consistently open and ethical behavior will be rewarded. A 1987 poll indicated that Americans value honesty more than intelligence, and believe that our institutions and the people who run them should be held to the highest standards of honesty.

There is a deceptively simple solution to the need for management in the open, increased productivity, greater innovation and higher degrees of trust. Simple to describe, that is, but much more difficult to implement.

The remedy is to share openly information and facts, and to use performance as a measure of competence, contribution and reward. This means the end of turf protection. It means management shares information with employees. It means the marketing department shares information with production staff. It means the organization shares information with regulators.

This, of course, can violate traditional power relationships whether the power is associated with title, unionization, credentials, sex, race or seniority. Factual information can be clearly and openly sought, measured and communicated. Organizations that are driven by the facts, by reality rather than by power, politics and tradition will be those that move toward higher levels of performance.

While many argue that this is how they measure and communicate performance, it is rarely the case. It will change because of the drive for flexibility and productivity improvements. It will change because the introduction of computers and their increased connectivity will make hiding or obscuring the facts impossible.

Human Resource Management: On the Firing Line

When all is said and done, the changes that must occur inside the organization become the purview of the human resource people. Once the quiet attendants of paychecks and benefit administration, with some occasional excitement in labor relations, the personnel managers are now squarely in the middle of the need to change.

From a changing work force to immigration reform and mandated benefits, the turbulence in the work force comes home to roost in terms of policy, practice and procedure within human resources. This function and responsibility will grow in importance as the recognition of the high value of the people in the organization translates into new programs that prove it.

One of the ways to assess the current priorities and pressures for management is to review the result of several recent surveys of the professional perspective on the tasks ahead.

As might be expected, the two things most frequently mentioned as most important were the impact of mergers, acquisitions and divestitures and the need to reduce or control benefit costs. The statements in the surveys, as well as the results, however, define the conflict: a simultaneous need to reduce the size of the work force and rebuild morale. There is the pressure to grow lean and mean, yet fend off lawsuits for wrongful discharge. There is also a strong move to pay for performance and new emphasis on cultural change.

In terms of an overall vision, the group expects productivity improvements in the future because of improved human resources management and introduction of new technology, but 60 percent also expect to be involved in a merger or acquisition over the same period. So long as organizations are engaged in a series of organizational realignments, it will be difficult for human resource managers to spend much time and energy on productivity-related programs. We cannot have it both ways. We either focus on the ability to compete over the long term or on the short term benefits of arbitrage.

Growth

Finally, there is the primary management goal of growth. The concept of growth is so deeply imbedded in the culture that there is probably no annual report or business plan that does claim a commitment to it.

To prepare ourselves and our organizations for the future, however, we need to return to the real meaning of growth. As applied to businesses and organizations over the past 200 years, growth has meant bigger. It has assumed that the only way to generate rising standards of living was through the production of more, rather than better, things. Lives were measured accordingly. Quality of life was a matter of how much one possessed.

In a biological model, growth that translates into bigger at all costs is a cancer. The kind of growth that has real value to society means the increasing capacity to reach higher levels of human performance, both as individuals and as a society. If there is no growth of this type, there is death. Whether it is slow or fast is of no matter. The differences between an organization that is growing (productive) and one that is dying (non-productive) are easily observed.

GROWTH	DEATH
Strong goals/visions	Weak goals/visions
New activities	Constant, uniform activity
Individual involvement	No involvement
Innovative	Normative
Excited	Unexcited
Committed	Non-committed
Loose structure	Tight structure
Present oriented	Past oriented
Risk prone	Risk averse
Immediate feedback	No feedback
Open	Closed

We can just as easily have a rising standard of living through growth that is qualitative rather than quantitative. It comes not from a vision of more things, but from a vision of better things. It comes from the increased efficiency in the consumption of materials rather than from the increases in the number of things produced.

To a large extent, the new model opposes planned obsolescence. The new model simply says that if we built an automobile of such high quality that it will last a lifetime, the resources previously used to make the automobile will be available for something else. A large proportion of the family budget, beyond food, is taken in the constant replacement of things that have worn out. If they need not be replaced, the quality of family life could be maintained at a much lower income level.

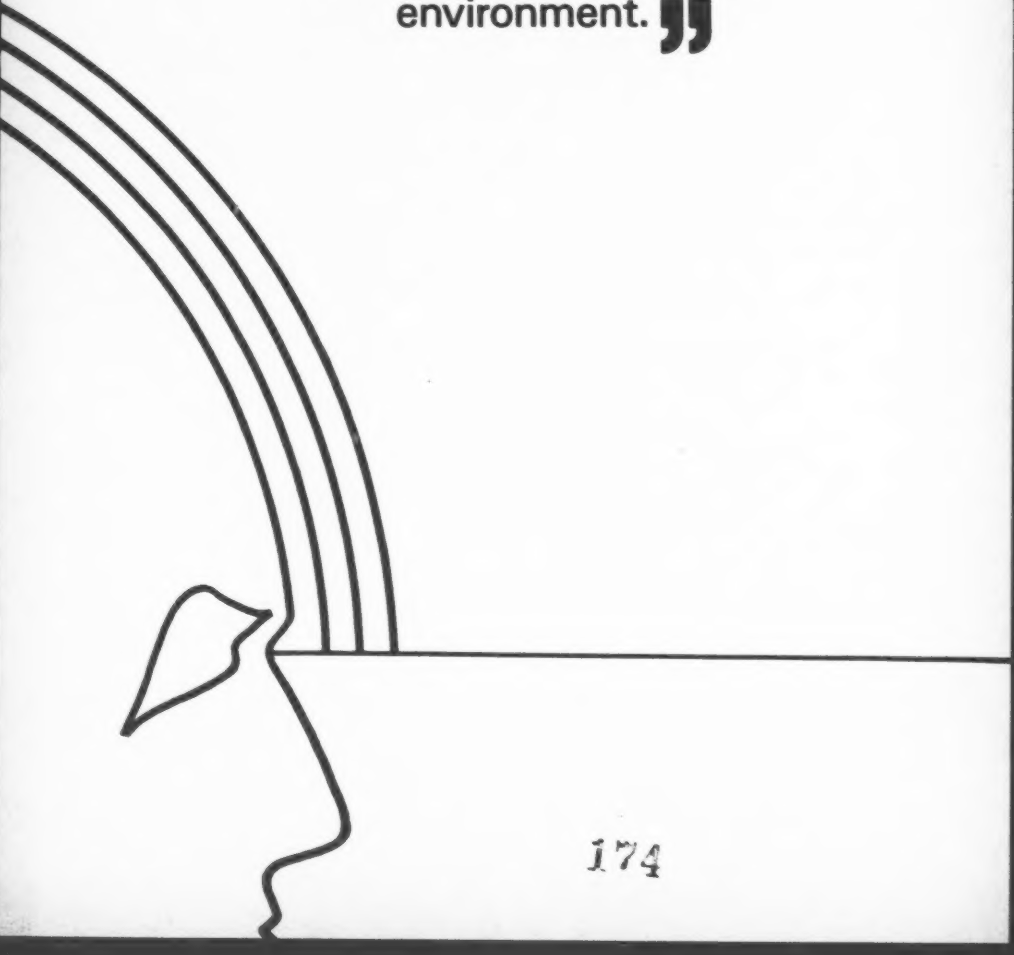
Many companies and industries have run themselves into the ground through the relentless effort to get bigger. Profitability, quality and value have never been a function of bigness. Indeed, the data clearly indicates that the most profitable firms and those best to work for are not the largest, but the small and mid-sized organizations.

Leadership and management are needed for the new approach to growth. The millions of people now choosing to work for themselves or to start their own companies indicate more concern with the qualitative aspect of work than the quantitative. Breaking large organizations into smaller work units also can reshape economic and institutional arrangements.

In the future the actual worklife experience will be more directly related to the smaller units and to the visions of real growth as opposed to the growth in quantity alone.

CHAPTER 10

"In an online world,
we are still
preparing students
for a batch-processing
environment."



CHAPTER 10

Education and Training: The Competitive Edge

The United States has a problem. As we move into an era when knowledge and skills are critical to our economic strength and stability, our educational system is failing. For too long, we have taken it for granted. As we reaped the benefits of a strong educational system at the turn of the century, we did not invest in the system. We did not ask it to prepare us and our children for the next century.

The raw material of the information age is information and knowledge. As individuals and as a nation in the years ahead, we will either enjoy prosperity or struggle with mediocrity, depending upon our ability to educate, train and retrain our work force. Competent individuals emerge from experiences, programs and schools that offer the very best in materials, equipment, teachers and attention. Educated, trained and competent individuals are valuable assets, and over the long term bring substantial returns on the investments made in them.

During the first half of the Eighties, more than two dozen reports were released on the "crisis in American education." The details are shocking. What is even more shocking is the apparent inability of the country to act in any meaningful fashion to resolve the problem.

In 1986, one of the major reports, *A Nation Prepared: Teachers for the 21st Century*, funded by the Carnegie Corporation, made the issue clear:

> "America's ability to compete in world markets is eroding. The productivity growth of our competitors outdistances our own. The capacity of our economy to provide a high standard of living for all our people is increasingly in doubt. As jobs requiring little skill are automated or go offshore, and demand

> increases for the highly skilled, the pool of educated and skilled people grows smaller and the backwater of the unemployed rises. Large numbers of American children are in limbo — ignorant of the past and unprepared for the future. Many are dropping out — not just out of school but out of productive society.
>
> Success, then, depends on the whole society coming to place a much higher value not just on schooling but on learning. This demands a redefinition of the purposes of schooling, one that goes way beyond the inculcation of routine skills and the acquisition of a stock of facts. An economy based on people who think for a living requires schools dedicated to the creation of environments in which students become very adept at thinking for themselves, places where they master the art of learning and acquire a strong taste for it."

We seem to have been lulled to sleep by our economic and inventive successes. We have put men on the moon. We are even willing to undertake massive restructuring of entire industries, to say nothing of companies, in the effort to remain competitive. ***Education seems to be another matter. Addressing change, responsibility and restructuring in relation to education creates a greater visceral reaction than a discussion of religion.***

For some reason, the image of the little red schoolhouse, together with the fond memories of youth, make us resist change in schools, in teaching, and in the patterns with which we grew up. Our ideas of schools and education are the core of the good old days, and we do not feel the urgency to demand and contribute to needed restructuring.

At the national level, government seems content to point out the problems, call for reforms, chastise the educators, and leave it to others to create the new ideas, new systems and new institutions to meet the challenges. Given the nature of the changes that must be made, and what should be the excitement of applying existing and emerging technologies and learning concepts in the creation of a whole new system for the country, the U.S. Department of Education wants us to go back to basics.

When the United States was a mass society, we all pursued the same general goals, for the same reasons, throughout the same stages in our lives. Our communities were dominated by the nuclear family and our schools were an important element of the effort to ensure a good life for our children. Supporting public schools through local property taxes was appropriate and rarely questioned. It met the realities of the times. Special support from the federal taxes that attempted to promote innovation and alleviate inequities also fit.

Public schools were a place of high respect and enthusiasm. They were the mechanism through which knowledge about sciences, math, literature, foreign language, etc., was transmitted. These schools, and their parochial counterparts, led our children through a predictable, constant succession of steps in preparation for a job or for college. In many cases, they taught children things that parents did not know, as new generations progressed farther than their parents before them.

Today conditions are totally different. They have changed far beyond short term variations in hair length, educational philosophy, and politics. Today, our society is complex and diverse. The nuclear family is a rarity. Singles, single parents, and childless families dominate our communities. Our children are being bombarded with knowledge and information through television, magazines, radio, movies, computers and books. Students, teachers, parents and administrators struggle over the role and responsibility of each. Local property taxes cannot be depended on for funding. Private schools spring up as outlets for a wide variety of groups with specific religious or ethnic philosophies.

Meanwhile, increasing numbers of non-students are seeking opportunities to learn new skills — at work, at nights, at home, part-time, or full-time. In an effort to participate in this rapidly shifting world, the community is deeply immersed in learning experiences of one kind or another, outside of the school system.

All manner of learning is taking place, but the school system itself is in disarray. Stuck with traditional assumptions about who should learn what, where, at what age, and at what speed, schools have floundered in the midst of an educational explosion. People resist paying taxes for schools, but spend money themselves for education.

First we must resolve the purpose of education today. The answer, of course, is education for the purpose of ***preparing people to lead productive lives, to enjoy their constitutional rights of "life, liberty, and the pursuit of happiness," in the last decade of the 20th century and the beginning of the 21st century.*** The answer is education in order to obtain those particular skills, that knowledge and those behaviors most needed to be the best possible contributor to the society one can be.

The perspective of an educational system that meets this mission has to be the future, not the past. We can only determine what must be learned by examining the needs of society today and in 2007, not by returning to what our parents learned.

The difficulty here is the same as for other concepts of work, employment and the economy. ***Our schools were designed precisely to meet the needs of the mass production economy we once were.*** Indeed, like all other institutions of the early 20th century, they were modeled after the successful mass production systems fueling our economic growth. ***They were batch-processing systems and taught the kinds of skills, behaviors and knowledge needed to participate in a mass-production, batch-processing society.***

In this environment two critical realities emerged. First, the role of individuals in the manufacturing sector was to tend the machines. Jobs were very carefully and precisely designed, and employees were expected to conform exactly to the demands of the particular job. Workers were perceived to be like everything else in the mass production system — standardized, uniform parts to be recruited, hired, rewarded, and fired in precisely the same manner. This occurred because the driving needs of industrial, batch-processing systems are:

- Dependability
- Uniformity
- Consistency
- Predictability

Our whole infrastructure grew around the dynamics of dependable and predictable standardization. In this environment, we created an educational system that also was run and organized like a batch-processing factory, not only in the process, but in the valued outcomes. ***We all learned conformity to time, to information and to behavior.***

One of the critical lessons of the educational system and the batch-processing environment was that success was directly related to the ability to get the right answers. The right answers come from the thorough study of how something has worked or behaved — in the past.

This notion of learning has to change. First, the certainty of the right answer requires an environment that is, itself, certain, standardized and predictable. ***When everything is changing, as it is today, there are no more right answers — there are only good, insightful questions.*** Employers are looking for those capable of learning as times, technologies, and conditions change.

And it is here that the real difficulty in changing our educational system lies. We have a strong belief that not only knowledge but good social behavior is related to the unquestioned repetition of information transmitted by an adult or an expert. Serious and sustained questions regarding the comments or observations of a teacher or supervisor are classified as impudence, ignorance, or both.

The heart of our educational system lies in the mechanical physics era discussed in Chapter 2. It is absolutely linear, standardized, uniform and repetitive. Think about it. We take healthy, inquisitive, energetic and creative 5-year-olds and then spend 12 years immersing them in a system designed to reward the opposite traits. When that was needed to succeed in the workplace, it was acceptable and responsible. Today it is not.

One useful way to examine the differences in education needed today and what we are accustomed to is through the descriptions of *maintenance* versus *innovative* learning. (Burt Nanus and Warren Bennis in "Leaders: The Strategies for Taking Charge.") What we have been engaged in is maintenance learning — an effort driven by the demands and the opportunities that are associated with "maintaining and improving upon" an existing system. In business and economic terms, it boils down to an effort to maximize the return on investment. Those most closely associated with the system, with its operating characteristics, and with its potential problems become the experts responsible for teaching others how to solve "known, recurring and predictable problems." These are the skills necessary for tending the machine. The objective is to prevent error and correct mistakes.

This will not suffice in the future and is inappropriate for today's world — at work and in learning. We now must adapt all our behaviors, and particularly our learning institutions, to develop the skills needed for the current and future environment. Its characteristics are almost 180 degrees opposite what we have been accustomed to:

- Uncertain
- Changing
- Uniquely differentiated

We will not meet the opportunities ahead through utilization of the same skills and motivations that worked in the days of batch-processing. We now need skills and training to "solve problems that are unique, unknown and unpredictable," and we need responses that are "inventive, creative and entrepreneurial." There are no more right answers. We learn today from our own experience in attempting to define and test new ideas. We learn from interaction with others. ***We learn by doing, and we learn by the willingness and the energy to keep asking the questions that will generate the next best thing to try.***

Table A shows the basic difference in the characteristics of the new workplace as contrasted to that of the industrial era. Table B then describes the difference between maintenance and innovative learning. While we are naturally comfortable with the industrial model of the workplace, and the maintenance learning environment for education, it is the other two that must drive our efforts, our policies and our practices in the future. If not, we will miss the opportunity to be full participants in the new economy.

Table A
Workplace Characteristics

Industrial Organization	Modern Organization
Linear	Dynamic
Closed	Open
Top Down	Participatory
Rigid	Flexible
Uniformity	Diversity
More	Better
Quantity	Quality
Form	Substance
Competition	Cooperation
Standards	Visions
Answers	Questions
Male	Male/Female
Training	Development
Teaching	Learning
Credentials	Performance

Table B
Learning Characteristics

	Maintenance Learning	Innovative Learning
Goal	Acquisiton of skills and behaviors needed to succeed in known, predictable situations	Acquisition of skills and behaviors needed to succeed in unknown, unpredictable and unique situations
Measure	Better solutions to old problems	Innovative solutions to new problems
Reference	Past	Future
Behavior	Conformity, uniformity	Divergence/Uniqueness
Peer Relationships	Competitive	Cooperative
Information Flow	Top Down	Omni-directional
Expectations	Predetermined	Expanding, unknown

To make the transition, we must find a way to stop the continued batch-processing of students, at all levels. While some schools are better than others, they are assembly lines working to meet such production goals as the numbers of graduates and such quality measures as scores on standardized tests.

The assembly line (schools) takes raw material (students) in through the front door and the workers (teachers) in each part of the assembly process affix the same set of predetermined parts (curriculum materials) at a fixed pace, then pass along the work in progress to the next worker. Some factories turn out luxury models (gifted and talented) and others work on special parts (special education). The entire system has had significant waste (drop outs), but continues to produce its products whether the market wants them or not.

During the last decade, too much of the raw material did not make it through the system. We have such a strong mythology regarding our educational system that we are blind to its failures. The drop-out rates are extremely high, and three of four high school freshmen do not receive bachelor's degrees. We only give lip service to the substantial number of illiterate adults in the country.

Essentially, we have three groups of students in our schools. First, the best and the brightest, who by natural ability and by family circumstance perform well, go on to college, earn a degree, and expect to begin their 30-year careers. Second are the disadvantaged, who by background, income and family have extreme difficulty fitting into the established system. Third are those who are in the middle, those who find the educational process just difficult enough to question its utility, who must earn money before they are 22, who are not academic achievers, and those who have interests and talents the system is not designed to handle.

Under normal circumstances, the debate regarding the revitalization of our schools focuses on the first two groups. Standards will get tougher for the first group; they will be pushed harder and given new courses and experiences to choose from. The disadvantaged will be pushed back to basics; community leaders will help parents, friends and children get into school and stay there. The middle will be ignored, but it is the middle that forms the backbone of the emerging work force.

The crunch comes down to the willingness to redefine the educational system; to make the changes needed to establish meaningful learning experiences for all these groups. It may be that by paying attention to the majority, we will find some of the options and innovations that will serve all better.

For example, Dale Parnell, president of the American Association of Community and Junior Colleges, has been championing an idea called "2+2." The idea (and it is in practice in some communities under less formal conditions) is a four-year educational program that begins when the child is a junior in high school and continues through two additional years at a community, technical or junior college. The stated intent is to "provide educational excellence and quality to the average or ordinary student found in today's high school — the middle 50-60 percent of the high school population." (*The School Administrator*, September 7, 1986)

Called at the moment a "2+2 tech-prep/associate degree program," this innovation takes maximum advantage of existing resources in the community and redefines them to create a productive alternative for the student. It includes a core program of learning, communications skills, social sciences and physical education. Beyond that, math and sciences are tailored to meet the skill requirements for the particular technical field studied in the final two years.

This is a call for a new collaboration between the public schools and the community or technical colleges to shape a meaningful learning experience. (It is these junior, technical and community colleges that have been on the forefront of innovation in education utilizing computers, video and other techniques to enable them to better reach their customers.) What emerges is a "liberally-educated technician" who seems to fit precisely the workplace needs of the future.

Such a program, with all the good sense that it makes, is not all that dramatic in terms of the changes for which it calls. We have the students, we have the schools, and we have the need. We also have, however, a culture that is so biased toward higher education in the traditional forms that even those promoting the program are compelled to label it the "2+2 tech-prep/associate degree program." What is needed now is the confidence and the passion to generate excitement around the idea with a name like "Master of Skills in xxxx Degree" or "Technician First Class," or something that doesn't sound second-class.

Those working in the educational system face precisely the same conditions and opportunities that those in other forms of work face. Teachers, for instance, are the single most important group in the process of educating and training our children and their worklife has not only been greatly confined, but they have received little respect or support from the society over the past 20 years.

In their workplace, a career path has been one that essentially said, "If you do a good job of teaching third grade social studies, you can teach it for the rest of your working life." The management literature is filled with discussions of the trauma and the waste of plateauing. Teachers have rarely had anything else.

If we are to create an educational system that will serve us well into the 21st century, the notion of teachers and teaching must change along with everything else.

Nothing is more dramatic regarding the current state of our schools than their lack of integration with the current technologies that define contemporary life and that will dominate the workplace from now on. In fact, schools are so far removed from current technological reality that they act as if it does not exist.

Take computers, for example. The first group of people in this society that should have embraced and mastered computers were the educators. Instead, they have been among the last. Money, of course, is the excuse. Loss of power is probably the answer.

We all know that no matter how far computing has advanced today, it is moving at an extraordinary rate. It will form the world in which today's students live and work. We also know that children possess an enormous capacity to relate very quickly to the power of this new tool. What we have in our schools, however, are computer labs where students get a few hours a week, at best, to use them. Few teachers and fewer administrators have much computer competency.

We are looking at the most powerful information tool ever conceived, with an existing capability to link into the 4,000 data bases that now exist to pull almost any imaginable information right into the classroom. They can draw pictures, play music, test skills, communicate with children in Russia, look up the details of a Civil War battle, and examine the internal structure of a molecule.

The opportunity and the problem is inherent in the revolutionary nature of the information revolution discussed in Chapter 2. Computers and their connection to information banks deprive the educational system of nearly all its power. They respond immediately to any question — without rebuke. ***They provide information to anyone who asks, whether they have taken and passed the prerequisite courses or not. Computers care only about the question, not about the questioner.***

There is also the old bugaboo of television, that nasty technology that has the kids all tied up with MTV and "Moonlighting" and who knows what else. Television actually is a powerful video monitor: a window on the world bringing instantaneous, live reports of events as they occur around the world, or violent movies, or cartoons, or educational programming, or sporting events, or hearings in Congress.

Television and video are powerful communicators of information — far more powerful than print. Form, motion, sound and color provide infinitely more information than the printed page. Indeed, the next major development in training will be the improved utilization of video technology. Neglected for too long, this powerful medium will come into its own in many ways. There are many reasons for this, but the most important are: 1) speed of delivery, 2) leverage, and 3) interaction.

Today, video offers a wide range of exciting alternatives, particularly when linked to other technologies. First, special sessions can be televised and reach an infinite number of people at literally any geographic location in the world. Second, sessions can be taped, duplicated and distributed overnight. With new electronic blackboards and interactive voice or video hook-ups, dozens of classrooms can be served simultaneously. With some additional work, either with laser disc or new tape equipment, video presentations become interactive. Continuing live, in-house television connecting work groups, study groups, management, assembly lines and research labs for teleconferencing is also emerging.

Video for education will be developed in the private sector, as have computers, simulations and other new techniques for enhanced learning. Business organizations have no choice. They simply cannot await new innovation, technology or important development to be identified, studied, prepared as part of a traditional curriculum and then send people to attend the class. Such a process is too slow these days.

Children are growing up in the world of video monitors and computers. ***They are part of the information age, and are accustomed to absorbing information in bursts and accustomed to switching channels; making choices; and asking questions.*** Not only that, but the world in which they are expected to work will be dominated by the same technologies. It is only during their educational experience that they are missing it.

To bring them into a classroom that has the same chalk, blackboard and mimeographed sheets that were appropriate in 1940 and expect them to sit still, pay attention, and be enthusiastic is foolish. It will never prepare them for the world in which they must live and work. The real world is not represented by the traditional school, and we must change it or continue to pay the price of dropouts, illiteracy and ill-prepared employees just when we most need them.

Non-Education Education

Education and training, fortunately, have not been confined to the educational system. The need for training and retraining has been so great that entire industries have sprung up outside of the traditional school system. All this learning helps to define the information age.

In businesses alone, it is estimated that 10 million employees participate in 18 million courses a year at a cost of more than $40 billion. The military provides continuous training to its four million members. Approximately 50 percent of the 15 million government employees take a course each year, and there are more than 8,000 private, proprietary schools that train over three million people each year in everything from computer repair to beautician skills. Add the $50 billion spent by the colleges and universities as they provide courses to 12 million students, and you have an extraordinary industry.

Unfortunately, this is neither enough in quantity nor the best we can do in quality. Compared to the magnitude of the requirements for future learning in the workplace, this impressive amount of education and training will prove to be a drop in the bucket. The entire idea of training and management development will have to change as we struggle to protect our investment in our employees amid the current shifts and developments in technology, markets, products, and industries.

Fundamental change in the organization's approach to training will be driven by two powerful developments in the society at large. The first of these is the emerging pressures for all organizations to become more entrepreneurial. Today's business environment demands that an organization move quickly, be flexible, and anticipate and respond to change better than competitors.

Rather than a tightly organized and planned system of delivering a specified set of skills to employees at various stages in their career development to ensure effective succession and promotion, training must focus more heavily on developing the abilities to transmit learning skills themselves. ***The issue will become one of training for change and fluidity, and not for stability.***

The second fundamental shift that will alter education and training activities is the emergence of the need for lifelong learning. This is one of many ideas that must be addressed today by educators and sociologists. Here again, the pace of change has accelerated to the point where no particular skill or methodology or knowledge has relevance for very long.

This has profound implications. At its most basic level, it suggests that everyone we hire will have to be retrained three or four times during a normal employment period. The alternative, of course, is constant turnover, replacing the work force every five years or so.

Having accepted the idea of continuous training and education of all employees just to remain competitive, the task of identifying *what* should be taught and *to whom* could appear overwhelming, particularly when one of the most important causes of the need is continuous, complex change.

To a large degree, these questions will be answered by the work force itself. Individuals and work groups will probably be among the first to spot important changes in the technologies, equipment, markets and practices that most affect their work. Training must be made available as soon as those needs are identified. Education and training will have to become market driven. Rather than stage training functions to schedule courses to which individuals are invited or required to attend, individuals will state the needs that courses will have to meet. A cafeteria of education and learning will be required.

Under these circumstances, the role of the training function changes. Trainers will have to be coordinators, resources and facilitators. Their job will be to know as much as possible about the new and emerging alternatives for gaining knowledge, where courses are being taught, what can best be delivered internally, and what requires outside assistance. They will also have to be skilled needs assessors, able to assist individuals and groups in the organization to identify specific needs for new knowledge. They will also have to be capable of evaluating the results of new and ongoing training and its relationship to current corporate goals.

Another implication for organizations and the society is the impact of all these changes on the idea of degrees and credentials. If there must be lifelong learning, then no particular diploma will have much meaning after four or five years. A Ph.D. that was received 15 years ago will come to have less relevance, perhaps, than a specific "certificate" of training received one year ago. Recruitment, hiring, promotion policies in most places still assume a permanence of competence in degrees. This clearly is now an archaic notion.

Policies and practices related to age also will have to change as we train and retrain. This should give new life to the older members of society because they, like everyone else, will have the opportunity to stay abreast of key changes and developments. Retirement can be forestalled and more and more people will be able to pursue second and third careers.

This is already evident in the students attending college. While there has been a decline in the number of 18- to 24-year-olds in the country, the student population at institutions has not declined because of the extraordinary increase in older students. These students now account for approximately 40 percent of the college population. In 1972 there were 2.5 million students over the age of 24; today there are 4.7 million, with the largest increase in those 30 and older. Within a few short years, the demographics of the student population in higher education will be evenly spread throughout the ages 16-56.

Students In Higher Education

Age	1972	1985	Percent Increase
25-29	1,229,000	1,884,000	53%
30-34	531,000	1,181,000	122%
35+	783,000	1,661,000	112%

Equally important is the fact that there are increasing numbers of part-time students. ***Part-time work is being balanced by part-time education.*** The linear, lock-step progression from kindergarten to retirement has been broken. The next task is to build a set of institutions and procedures designed to serve this reality rather than continue the traditions of prior times.

We will conduct all this training everywhere. Unless some truly dramatic changes take place, however, it will not be in major universities for some time. Instead, it will occur in the workplace, at home, at community colleges and at corporate universities first.

The MBA

There remains a deep and lasting mystique with the MBA. Despite the call for entrepreneurship, innovation and creativity, it is still the traditional skills and perspectives of the industrial management tradition that are preceived as valuable. Graduate business education has been around since 1900 at Dartmouth. In 1970, 24,000 MBAs graduated and in 1987, 71,000 will graduate.

Like other aspects of the current change, it is difficult to put our personal commitment behind what we know to be true about the new era. According to a 1986 Louis Harris poll of 600 U.S. executives, 51 percent declared that holding an MBA was not important for advancement in their companies. At the same time, 78 percent believed their children should earn an MBA, if pursuing a business career.

What fits more clearly into emerging personal and organizational needs are the special programs geared toward people already employed. These advanced management programs are very successful. They range from four- to six-week summer sessions to programs such as the Sloan Program at Stanford, which consists of nine months of concentrated work leading to a master's of science in management. The Sloan Program is designed for corporate middle managers, sponsored by their organizations, who have at least eight years of experience.

Liberal Education?

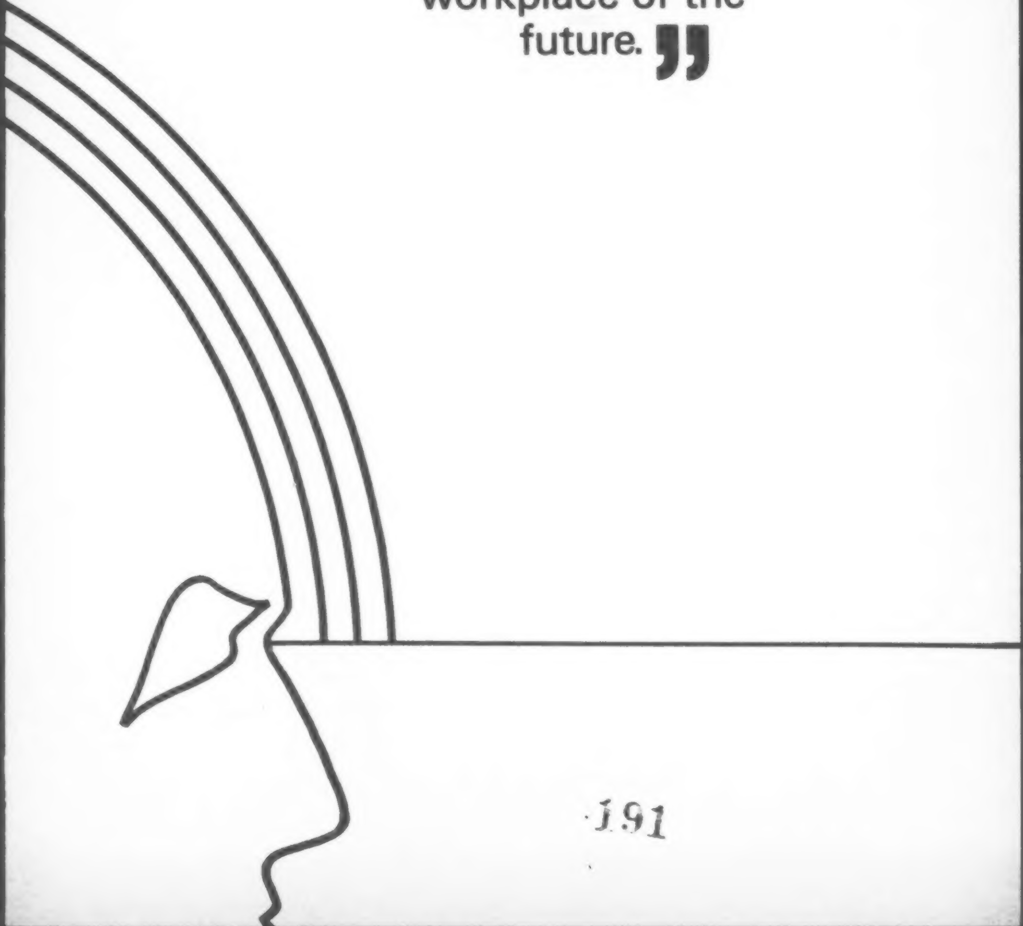
As technology, systems and organizations change at an increasing pace, and the needs for current knowledge accelerate, there is new argument for a return to liberal education. The ability to learn, to think and handle complex information are the critical skills in an information age. Knee-jerk reactions that suggest a return to the liberal education of yore, however, are not the answer. A new form of liberal education is needed that marries the current technologies and tools with the best of what we know about how people learn.

Liberal education does not mean that technical education is not required. It defines a state of mind regarding the purpose and design of the educational experience. It is a call for the pursuit of technical information with a purpose of learning how to learn, rather than with an expectation that once learned it will be correct forever. The luxury of protected isolation for several years behind ivy-covered walls is a thing of the past. What is not a luxury, however, are brief respites lasting several months at various times throughout one's life, to refresh the mind and explore new concepts.

There must be a rapid blurring of old lines of turf and tradition among the large universities, the private liberal arts school, and the community and technical colleges. Partnerships will evolve among them, and between the educational systems and the communities they serve. They will come, most likely, with much sound and fury, as yet another remnant of earlier times adjusts to meet the needs and the opportunities of the new times.

CHAPTER 11

> "Through our individual choices and actions we will create the workplace of the future."



CHAPTER 11

Creating Worklife Visions: The Challenge and the Choices

When times are as turbulent as they are today, opportunity and danger co-exist. Our opportunities for aiding the progress of our communities and our nation are there. Change is partially a process of freeing ourselves from the constraints of the past. It is how we grow and how we learn.

Unfortunately, when change is as pervasive as it is today, it is also disruptive. It removes the external guideposts, the accepted forms of business and personal activity and we lose the natural comfort of familiarity. Major change can shatter the most deeply held assumptions and expectations.

In the end, however, it is our work that shapes our world. We build what we choose to build and live with the results of our efforts. For all of us, it is predominantly a matter of *choice.*

We can choose to seek the lessons, the opportunities and the possibilities from the emergence of a new economy and build upon them. Along with the strains and the anxieties that these changes bring, we can choose to believe that they represent opportunity to improve and move forward.

On the other hand, we can choose to fight the changes, to protect what we have and to resist the inevitable uncertainty and disruptions these changes bring. We can choose to circle the wagons, finding as many supporters as we can to fend off the intrusive challenge to the ideas, the institutions and the practices we have worked so long to build.

We can also choose to simply go with the flow, believing that there are others who will sort out the mess for us. We can even choose to do nothing at all, believing that all this talk of change and transformation is so much nonsense.

I have some visions as to how we can choose to bend and mold the forces of change toward a better future. They are simply visions and ***have more to do with how we approach work and employment than with precisely what we do.*** They are not "right", for I know no more about the future than anyone else. I do know, however, that it is through our collective intentions the future conditions of worklife and the health of our society will be built.

Individuals

The message of the change is that we must all pursue our own excellence. *Excellence* and *productivity* and *quality* are only measures of individual effort, energy and commitment to add the most value they can to what they are doing. Most often presented to us in the workplace as but one more hastily-conceived, quick-fix, trendy program, these are terms that really define our state of mind — our individual and group intentions.

Each of us applies as much effort and contribution to our tasks as we feel like contributing. We should also understand that the only thing we can count on to assure our employability is our own set of skills, performance, character, and our willingness to learn. Neither the government, nor any current employer or union, has the ability to assure us of a job. What they can do, however, is assist in providing the education, training, motivation and rewards that encourage and support us in our efforts to perform and to learn. They can also be leaders, but we must realize that followers create leaders. We get what we deserve, whether in politics or at work.

We should make the effort to adopt a computer and use that magical tool to do our bidding. We have to keep pushing to see how, when and where the new technologies might enable us to do things better or, more important, to do things we never thought of before. We must do this partly because we owe it to ourselves to use the best tools possible in our own development, and partly because otherwise we will not be able to blend our skills with others who are using the tools.

We have to believe we can be the very best at whatever we do and that the rewards — both personal and material — will accrue to individuals who achieve excellence. This is as true for an electrician as a cabinet-maker, a teacher, a policeman, a cook, or a salesperson, or an elected official. Increasingly, it is excellence that rises to the top, regardless of the credentials, contacts, age, or race of the individual.

We must let go of the destructive, battle-oriented notions of competition, and see our work and our lives as a competition to reach higher ground, to excel, to provide unparalleled service and quality in the marketplace and in society. Cooperation is not for the timid. If we can adopt a biological model of reality, it is easy to see that living systems survive only to the degree that the parts cooperate. Survival of the fittest is a term we now should expand to include everything and everyone.

Parents

One group that has a clear, unwavering and active concern with the future of work is parents. This doesn't mean that others don't have a concern with the future. But parents are emotionally connected to the children who will have to deal with the problems and potentials of the 21st century. It is as a parent that I find that deciding which steps are most appropriate in preparing for the future of work are most difficult.

Chapter 10 details the current disarray of education. It is one thing to describe it, quite another to respond to it when you have school-age children. If there is a hint of passion in that chapter, it is caused by the frustration of knowing the current educational environment is not moving fast enough to prepare our children for working and living in the information age.

As parents, we must strive to understand the changes underway, not only as they affect us, but as they affect our children now and how they will affect them in the future. We must, for instance, understand that these children are growing up in a world far more complex than anything we experienced. We must understand that they are of the information age and have been immersed in the changes we have studied, discussed and tried to understand. We see them watching television and think it is the television we watched, when it is something totally different. It is a powerful video monitor communicating diverse information with a speed and power that few understand. They see this monitor as part of a reality that includes computers, video games, miniaturized radios, space travel and robots. At the same time, they see an adult world dominated by discussions of drugs, wars, AIDS, scandals, and criminal activity in the best of our institutions.

In the midst of this, parents, through their behavior and their discussions, must help their children pursue excellence, seek their own personal growth and achievement, and not be tricked into believing that a particular school or a particular profession, or even going to college, guarantees them anything. We must help them see the excitement that the changes bring; that they will be part of a generation whose contributions in the workplace will be more important than before; that it is personal achievement and personal integrity that matters. It is possible they will experience a far more fully developed democracy with greater potential for all of them.

Most of all, we must strive not to fool them. We must prepare them, not for a world of certainty, guarantees, and predictabilty, but for change and uncertainty. For many, this experience is probably already real, as parents have found their own worklives suddenly in turmoil. We will greatly affect our children through our own response to the changes and the uncertainity .

Educators

I hope the educators in this country will find the support, reward and motivation to re-create our educational processes to meet the challenges of learning for the new age. This will take individual and group courage because our general idea of education is so rooted in our collective conscious that we seem most reluctant to change anything that offends it. But change it we must.

The changes will come, I believe, when enough of those involved in the educational system — parents, teachers, students, administrators, and legislators — start asking the hard question of "education for what?" The answer, of course, is, "for meeting the opportunities and challenges of the future, not the past." The answer is to prepare children to face times of change, uncertainty, and innovation, not for a tight fit in a predetermined slot capable of responding to the predictable.

Educators are as affected by these changes as the rest of us. And, like the rest of us, the challenge is to stop leading two lives; one at work and another everywhere else. They, more than anyone else, should be studying and should be determining the nature of the new economy, for they will prepare others to deal with it.

The new methods, processes, procedures and tools of education will be unlike anything that was appropriate 50 years ago — and schools have not changed much since the Thirties and Forties. By their mission, schools should be 25 years ahead of the rest of society, not 25 years behind.

How we change and the speed of the changes that take place have to be determined school by school, district by district, and university by university. There is no right way to do this and there is, therefore, no wrong way. What we need are the innovators, the entrepreneurs, the educators who care enough about their students' worklives that they do everything they can to prepare them.

Managers

Most of the articles about the changes taking place have been directed at managers, those responsible for the structuring, rewards, motivation, and organization of others at work. The pressure will not ease. The demands for higher levels of performance and lower costs will grow as the work force reels from the turbulence of new uncertainties, layoffs and technological change.

For managers, the task is simple. They simply must honor, respect and care for their employees. As a Harvard MBA, I know that such statements are heresy. It is clear, however, that there are no workers who want or deserve to be treated like just another part of the machine. We either believe that our success depends on our people, or we don't. We either believe that quality and excellence and productivity come from individual effort, or we don't. We either care about people and what they are doing and our own involvement with them, enough to leave our offices and be with them, or we don't.

There is no mystery to the success of Japan. They carry the concern for people, for harmony, and for excellence with them. They pay attention to employees and customers, and they care about the quality of the response. That is why they generate such extraordinary productivity from their facilities whether they have Japanese, American or Hispanic workers.

The rest of the issues — the legal and tax and technical issues of employment and work — will work themselves out. They must be attended to, but they will reflect what we intend them to reflect. We get laws and legislation regarding equal employment, parental leave, pensions, etc., because we have not been able to resolve the issues in the workplace. If we devoted half the time, money and energy in the workplace to working these out honestly, and openly and caringly that we spend on lawyers and administrative procedure generated by the legal alternatives, we'd be far ahead of the game.

Policy Makers

Policy makers at all levels of government can have a major effect on the speed and the direction of our progress over the next several years. This, however, will require bold and continued leadership on their part. It will require their actions to be guided by a strong view of the changes underway and of the future they would like for their state or the country. And they have to do this amid the powerful lobbying system we have taken 100 years to create.

There will be growing pressures to protect industries and jobs from foreign competition. There will be pressures to continue to direct major proportions of our scarce human and financial resources to the military. There will be pressures to maintain an educational system that is out-of-date. There will be great risks for those who try to forge policies that are designed for the future.

It is not for protection of the past or from foreign competition that the country now needs to create and expand employment opportunities. Rather, it is a set of integrated policies and programs intended to promote change, and to provide assistance in adjusting to inevitable change. Individuals and entire communities will be hard hit at times as products, technologies and industries reach the end of their effective lives in the global marketplace. The anticipation and preparation for these events is more important than frantic scrambles after the shut-downs have occurred.

The responsibilities for our policy makers have not changed. The nation has changed. Their leadership must be forward-looking, helping the nation and our communities reach the potential inherent in the emergence of a new age.

About the Author

Jeffrey J. Hallett is president and founder of TRAC, Inc., a research and consulting firm specializing in information systems design, issue analysis, and organizational response to change. A frequent speaker and workshop leader on the emerging information economy, he also is president and co-founder of the Public Interest Communications Cooperative, an organization dedicated to the development and use of modern information and communication tools within the public interest community.

Hallett also is the publisher of *Trends & Learning*, a newsletter reporting on change and innovation in the field of education; co-publisher of *The Presidential Campaign Hotline*, a daily print and electronic bi-partisan summary and analysis of the 1988 presidential campaign; and a Director of the Corporation for Enterprise Development, a non-profit organization that provides information and services to those persons seeking to assist disadvantaged groups in the creation of business and employment opportunities.

Hallett co-founded, and was former president of, the Naisbitt Group. Hallett also worked in the U.S. Chamber of Commerce and the U.S. Department of Commerce as productivity programs consultant; and has been affiliated with the national Center for Productivity and Quality of Working Life, and the U.S. Department of Education.

A graduate of Wesleyan University and the Harvard Graduate School of Business, he is married to Debra Ann Cameron and is the father of four children.

About ASPA

The American Society for Personnel Administration (ASPA) is a non-profit, professional membership association of more than 35,000 human resource professionals and some 2,500 student members in the United States and 42 foreign countries. Now in its 39th year, ASPA is the world's largest professional association devoted exclusively to human resource management (HRM) and its members represent companies which collectively employ more than 40 million people.

ASPA membership includes a variety of publications and services designed to provide professionals with the information necessary to make wise decisions, formulate and implement effective personnel programs and to encourage the opportunity for peer exchange of ideas. ASPA publishes *Personnel Administrator* magazine, the nation's leading monthly publication in the HRM field, and *Resource*, an award-winning monthly tabloid newspaper covering news and trends in HRM. The Society also publishes books and monographs of interest to executives in the field, including the award-winning "Work in the 21st Century;" sponsors an annual conference; and offers members access to its information center and lending library for those members who seek in-depth information about any functional area of HRM.

In addition, ASPA's government affairs staff monitors all government actions which could affect human resource management practices. It coordinates testimony on critical issues and sponsors an annual legislative conference which brings together executives with government and agency officials to discuss the effects of regulatory change.

ASPA is a charter member of the World Federation of Personnel Management Associations and maintains an active issues management function.

For more information on the Society and its services, write ASPA, 606 N. Washington St., Alexandria, VA 22314 or call 703/548-3440.

WORKLIFE VISIONS

"Alan Greenspan on talking over the economy said 'We're in unknown territory.' Jeff Hallett has made an analytical exploration of it and drawn a map that can save much stress and heartbreak."

HOWARD K. SMITH
Dean of American Broadcast
Journalism

"Jeff Hallett provides the best insights into the future of anyone I know. . .he views history creatively to imagine the realities of the future."

BILL MUNSELL
Executive Vice President
Young & Rubicam Advertising
Chairman
Creswell, Munsell, Fultz & Zirbel Inc.

"Jeff Hallett has successfully collected the many dimensions of future worklife into an integrated whole. This is must reading for anyone involved in human resource management."

DR. WALTER A. ALBERS, JR.
Department Head
Operating Sciences
General Motors Research
Laboratories

The information economy, and its affect on work, careers and education, is the focal point of this important book. In *Worklife Visions*, Jeff Hallett examines the shift from industrial to information economy and the fundamental changes it will cause in the workplace.

Hallett begins with the premise that there are no longer any "trends" — nothing remains stable enough to be termed a trend. Unlike other books on the future of work, *Worklife Visions* is not based on extrapolations of the numbers or types of jobs that will be needed in the 21st Century. On the contrary, Hallett asserts that the changes underway are so far-reaching that attempts to define future requirements based on current data are meaningless.

The realities of the 21st Century require redefining work and rewriting the basic social contract between individuals and their employers to reflect an entirely new set of demands and responsibilities for both.

Going beyond *Future Shock* and *Megatrends*, *Worklife Visions* urges the reader's involvement with the information revolution now, while there is still time to shape the future.

American Society for Personnel Administration

ISBN 939900-31-9